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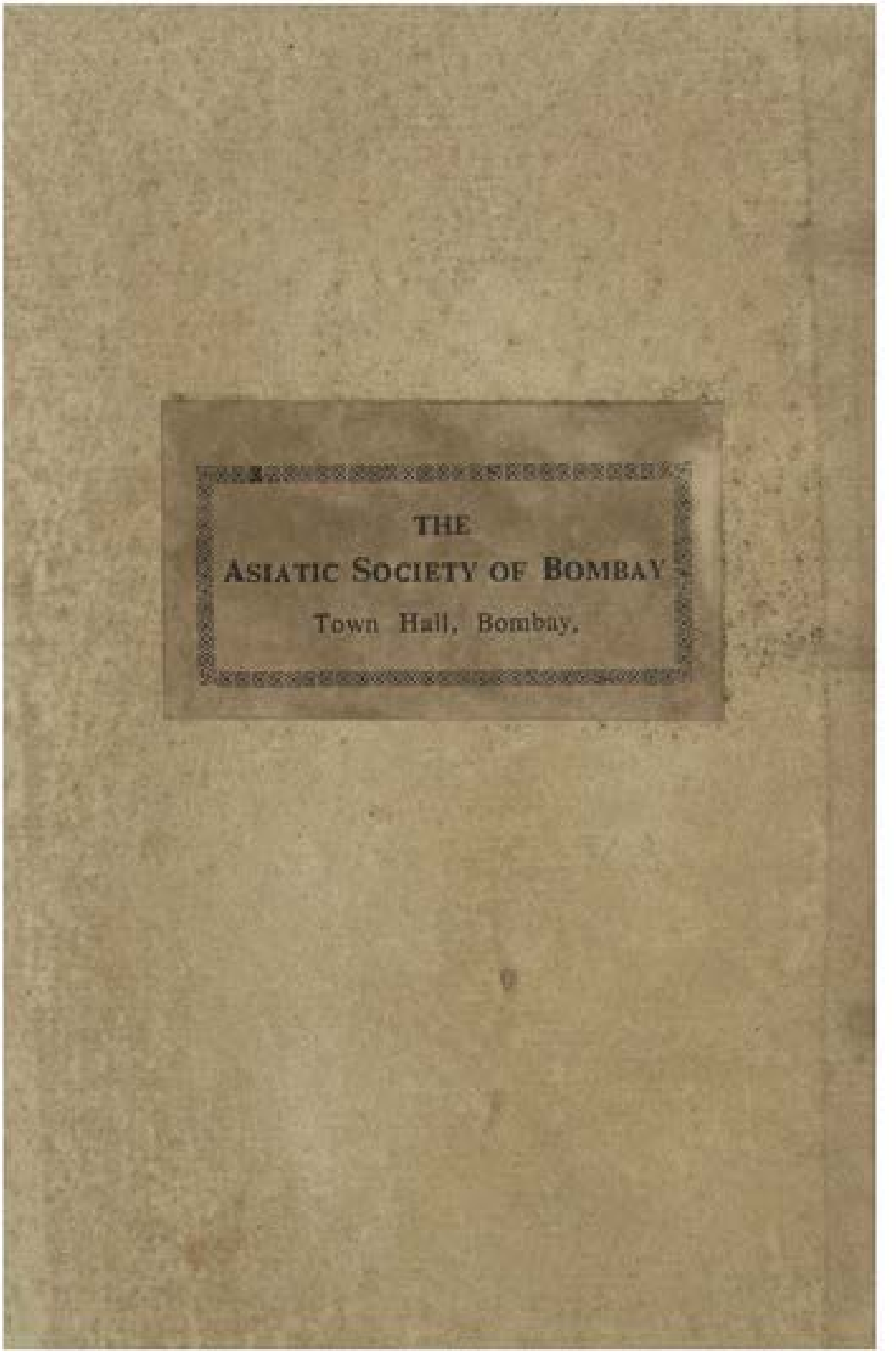

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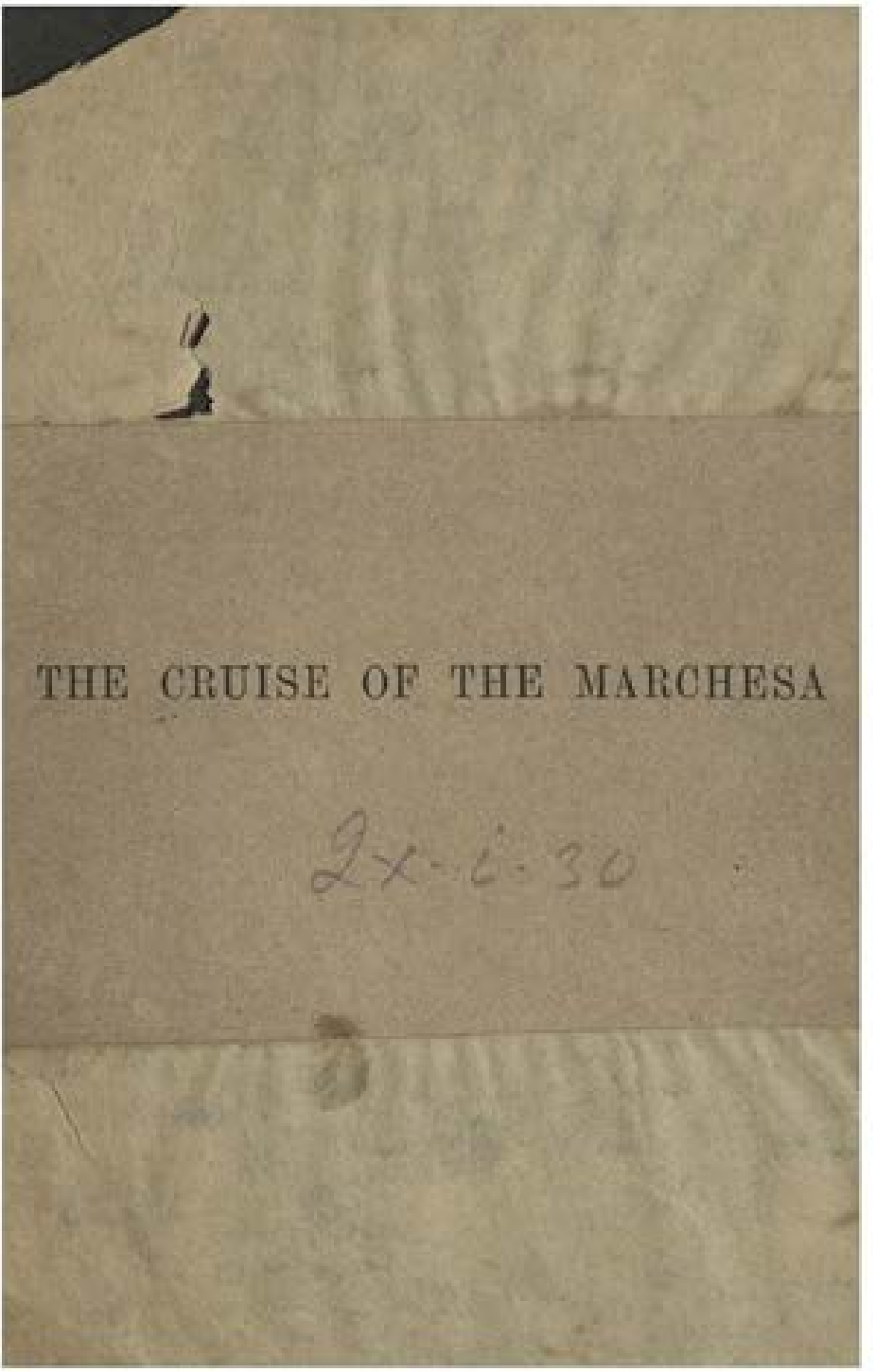

THE CRUISE OF THE MARCHESA

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THE

CRUISE OF THE MARCHESA

TO

KAMSCHATKA & NEW GUINEA

WITH NOTICES OF FORMOSA, LIU-KIU, AND VARIOUS ISLANDS OF THE MALAY ARCHIPELAGO

56733
a. 2.

By F. H. H. GUILLEMARD

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FELLOW OF THE ZOOLOGICAL SOCIETY, ETC. ETC.

With Maps and numerous Woodcuts

DRAWN BY J. KEULEMANS, C. WHYMPER, AND OTHERS
AND ENGRAVED BY EDWARD WHYMPER

'Ignotis errare locis, ignota videre
Flumina gaudebat, studio minuente laborem'
Ovid. Metam. iv. 294

IN TWO VOLUMES—VOL. I.

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TO

Charles Thomas Kettlewell

TO WHOM I OWE THIS

ONE OF THE PLEASANTEST OF MANY PLEASANT CRUISES

I DEDICATE THIS BOOK

9X i 30

PREFACE.

A few words are perhaps necessary by way of introduction to the following pages.

The *Marchesa*, an auxiliary screw schooner yacht of 420 tons, Mr. C. T. Kettlewell captain and owner, was commissioned in the Clyde in November, 1881, and left Cowes on the 8th of January following. She reached Colombo April 24th, having touched at Socotra and Oolegaum Island, one of the Mahlive group, on her way from Aden. From Ceylon she proceeded *viâ* Singapore to Formosa and the Liu-kiu Islands, and thence to Japan. She left Yokohama for Kamschatka July 29th, returning thither from the north on the 6th of October. On the second visit to Japan four months were spent in the country, and the yacht then proceeded for a six weeks' cruise in Chinese waters. Leaving Hongkong at the end of March, 1883, some weeks were devoted to exploring the little-known islands of the Sulu Archipelago, and to visiting the territory of the North Borneo Company. The *Marchesa* then returned to Singapore to take in stores, and proceeded *viâ* Sumbawa, Celebes, and various other islands of the Malay Archipelago to New Guinea. In her homeward voyage she again visited the Straits Settlements and Ceylon, and calling at Bombay, finally reached Southampton April 14th, 1884.

To such countries as Ceylon and Japan, and others which lie in the beaten path of the tourist round the world, I have not thought it necessary to allude, confining myself entirely to an

account of the less-known lands and islands in which our time was chiefly spent. "It is the fate of most voyagers no sooner to discover what is most interesting in any locality than they are hurried from it," Darwin tells us; and the sentiment often found an echo in our own minds when, as from various causes occasionally happened, our stay at some of these places was but short. This was especially the case with regard to the Liu-kiu Islands—a most interesting group which run the risk of being left unexplored by Europeans until the wave of Japanese civilisation has swept every particle of its originality from the country. For this reason, in an Appendix to Vol. I., I have incorporated such of our own notes as are of less general interest with those of former travellers in order to bring together the chief facts known of these islands. For their history I am indebted almost entirely to the account of Père Gaubil, the Jesuit, in the well-known "Lettres Edifiantes et Curieuses."

The history of Kamschatka appeared to me to be sufficiently interesting, and sufficiently little known to be worthy of a slight sketch in a separate chapter.

With regard to the *Marchesa*'s cruise in the Eastern Archipelago I had to contend with the fact that, in many places, that master naturalist, Mr. A. R. Wallace, had preceded us. Nothing could be more fortunate for a traveller, nothing more disadvantageous to an author. The "Malay Archipelago" may still be used as the guide-book for those beautiful islands, for they have been almost untouched by the great changes which Europe has witnessed during the last quarter century, and I have but little to add to or take from the descriptions of one far more fitted to treat of them than myself.

Our stay in the Sulu Islands extended over a period of about six weeks. Mr. Burbidge's examination of the flora of the group,[1] together with our collections of its fauna, show that the archipelago is not zoographically separable from the Philippines. Westwards

1 "The Gardens of the Sun," F. W. Burbidge, p. 343.

of the island of Tawi-tawi the narrow Sibutu channel forms a boundary-line from greatly-differing Borneo, which is almost as striking as that shown by Mr. Wallace to exist between Bali and Lombok.

From the Malay and Papuan regions the *Marchesa* returned with a large collection of objects of Natural History. Of these the greater portion were obtained in the large islands of North-west New Guinea. One of our chief objects was to become acquainted with the Birds of Paradise in their native forests, and in this we were entirely successful, obtaining no less than seventeen different species. The collection of birds numbered about 3000 specimens, which I have described in a series of papers in the "Proceedings of the Zoological Society" for 1885. The Coleoptera, of which there were some thousands, are as yet unworked. A few shells and butterflies were obtained. The former were kindly named for me by my friend the Rev. A. H. Cooke, of Cambridge. The butterflies—of which there were about 100 different species—have been listed, and the new species described by Mr. Oliver Janson.

The very large number of photographic negatives we brought back rendered the choice of subjects for engraving a matter of some difficulty. Very great care has been bestowed upon the illustrations, and I can fearlessly claim for them that—at least in point of accuracy—they can hardly be improved, for with a few exceptions they are reproductions of our photographs. The engraving of the blocks has been entrusted to Mr. Edward Whymper; Mr. Keulemans and Mr. Charles Whymper have respectively drawn the birds and animals, while to Mr. H. C. S. Wright, Mr. Stacey, and others I am indebted for the interpretation of some of my rough sketches.

In the following pages I have confined myself almost entirely to the record of facts, leaving my readers to draw their own conclusions and form their own theories as they please. It may be wondered why I have not touched in any way upon the political aspects of the British annexation in New Guinea, or spoken of the

probable future of our new possessions. The reason is simple. The cruise of the *Marchesa* in Papuan waters was entirely confined to the northern and western portions, which belong to the Dutch, and the knowledge of one extremity of an island 1500 miles in length qualifies one as little to speak of the other, as a visit to Spain would justify one in describing Turkey.

To attempt individually to thank the numerous friends who helped and welcomed us in our wanderings would indeed be a herculean task. Within the limits of a preface it would be an impossibility. English hospitality has become proverbial, but the traveller finds that it is cosmopolitan, flourishing beneath the Equator just as freely as in the British Isles, dispensed indifferently by European and Asiatic. Should they read these lines, I hope that those at whose hands we received it will accept our most hearty thanks.

In conclusion I must ask my readers' indulgence for the many imperfections contained in this account of the *Marchesa's* cruise. If, however, I can give him a tithe of the pleasure we experienced amid the magnificent scenery of Kamschatka, or in the jungles of New Guinea, I shall be more than fortunate. In these latter regions there is indeed but one thing that mars the traveller's enjoyment. The book of Nature lies freely open to him, but without years of study he cannot read it. It is written in an unknown language. He is confused with the unfamiliarity of the character and the apparently insuperable obstacles it presents. Such at least were my own feelings, although travel in tropic lands was no new thing to me. The few sentences I have deciphered have for the most part, I fear, been already translated by others, and in giving them to my readers I can only express my regret that Nature's volume has not met with a better exponent.

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CRUISE OF THE YACHT MARCHESA.

CHAPTER I.

FORMOSA.

Bad reputation of the coast—Treaty with the natives—Island of Samasana—Origin of its inhabitants—*Cervus pseudaxis*—A national school—East coast of Formosa—Gigantic precipices—Ascent of a gorge—Steep Island—Kaelung—Filthiness of the town—Formosan coal—Overland to Tamsui—Peculiarities of the aviduna—Chui-teug-ka—Tamsui—Old Spanish fort—Importance of Formosa—Its harbours—Geographical peculiarities—Products—Climate.

HOWEVER *blasé* or dis-illusioned a traveller may have become, there must surely be something in the first glimpse of a new land to arouse in him a more than ordinary interest. His last expedition has been, perhaps, a failure. He has projected a book on the religions of West Africa, and has discovered that the gods he has intended for illustration have been constructed in Birmingham; or he has been hunting in the far interior of the Dark Continent, and has found a billiard table and a Good Templars' Lodge where he had hoped for elephants.[1] If he be a naturalist he has possibly experienced more instances than he could wish of the destructive powers of the white ant, or, worse fate still, he has reached his journey's end with no collections to destroy. But, with a new country lying before him, all these recollections vanish, and, even if its exploration be impracticable, he none the less conjures up the images of its infinite possibilities.

[1] These two evidences of civilisation are—or rather were in 1877, actually in existence at Mollpolelo, the capital of Sechele's country, more than a thousand miles north of Cape Town by road.

It was with some such thoughts as these in my mind, that I found myself gazing one morning in June, 1882, at the southern point of the island of Formosa, regretting that we had but a few days to devote to it. Day was just breaking, and our new acquaintance seemed to wish to show herself under her most attractive aspect. A calm sea, brushed into crisp ripples by the early morning breeze, led the eye up to a wide stretch of bay lying right ahead of us. Range after range of thickly-wooded hills, which in England would have done duty for mountains, rose behind, and, tinged with the flush of a tropic sunrise, seemed to belie the evil reputation attaching to this coast. "You must know," says old Candidius in his "Account of the Island Formosa,"[1] "that these natives are very wild and barbarous, and that a certain ship call'd the *Golden Lion* being driven upon the coast by tempest, they kill'd the captain and most of his crew." That they did not always confine themselves merely to the murder of any one unlucky enough to escape drowning is a well-known fact, and it is probable that, even at the present day, cannibalism still exists among certain native tribes. To the west the Chinese have held possession for two or three centuries or more, but certain death awaited every one shipwrecked on the eastern and southern shores of the island, for the head-hunting propensities of some of the Formosans are as keen as those of any Dyak. It was not, however, until the massacre of the entire crew of the American ship *Rover* had occurred that any steps were taken to mend matters. General Le Gendre, the United States Consul at Amoy, at length succeeded, in October 1867, in concluding a treaty with Tok-e-tok, the paramount chief of the tribes of the southern district, by which the latter engaged to protect any stranger who might land, and to permit of the erection of a fort as a refuge for shipwrecked mariners. A still further point was gained in November, 1881, when, after considerable difficulties, a lighthouse was erected at Nan-sha, or Wo-lan-pi, the southern promontory of the island. This part of Formosa may

[1] Churchill's "Collection of Voyages and Travels," vol. i. p. 529.

now be considered tolerably safe, but for any one in search of adventure, the east coast still remains open. It is more than doubtful, however, whether the results of the explorer's experiences would ever be given to the world.

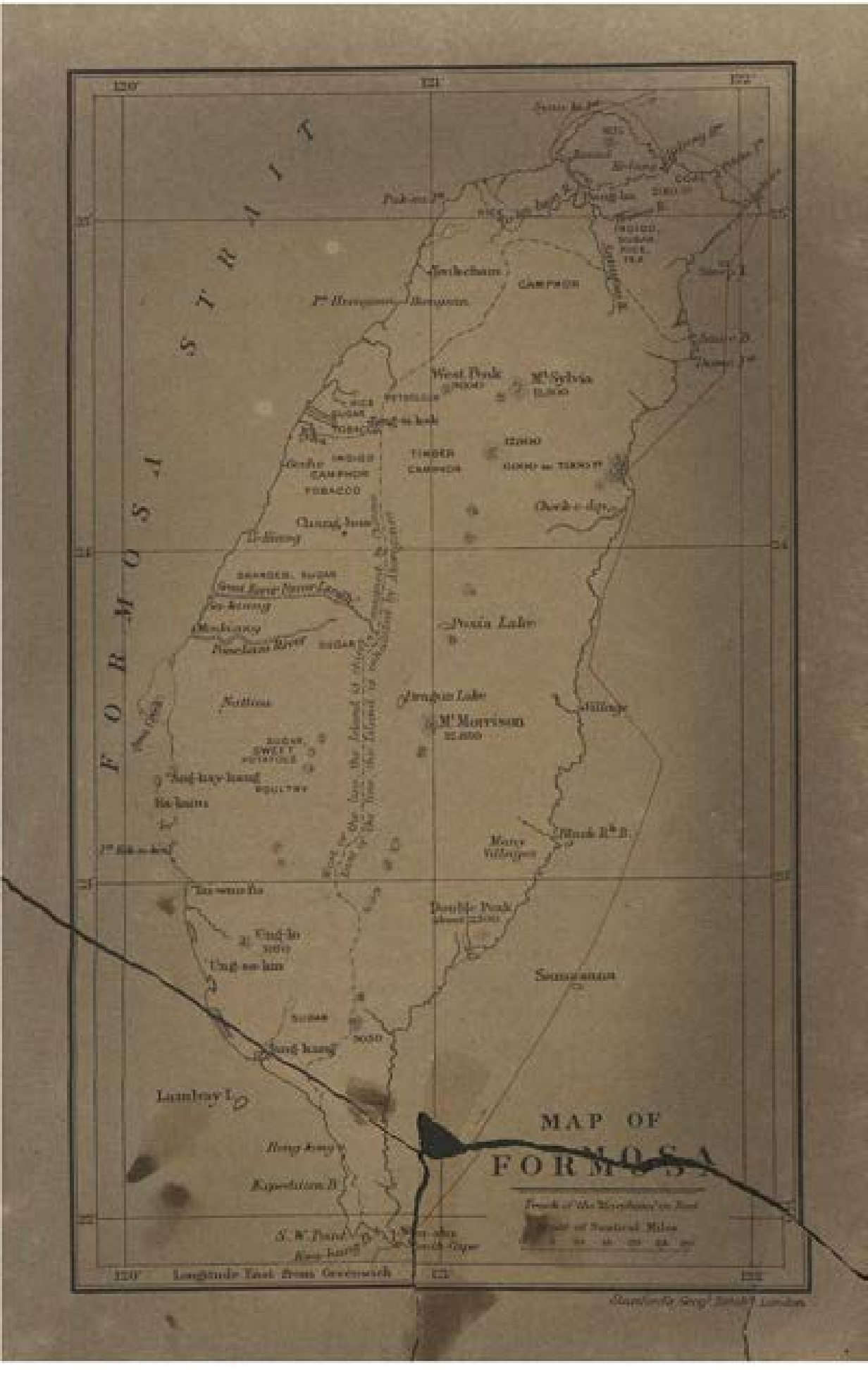
We ran in towards the land to reconnoitre the fort to which I have just alluded, and made out the Chinese flag which was hoisted above it. We had, however, no intention of landing, and on rounding the Nan-shi Cape altered course for the little island of Samasana. Aided by the Kurosiwo or Japanese current, which sweeps up the eastern side of Formosa at the rate of from thirty to forty miles a day, we passed the coast rapidly, and finally dropped anchor about noon in a bay on the north-west side of the island.

Samasana was visited by Sir Edward Belcher in the *Samarang* in 1845, and again by H.M.S. *Sylvia* in 1867, but we could not discover that any other vessel had been there subsequently. It is a small island, hardly two miles in length, chiefly composed of coralline limestone, which at the western point forms curiously-shaped pinnacles of rock, pierced in places with high arches. We were soon in communication with the natives, who are partly the descendants of Chinese from the Amoy province, intermixed, to judge from the darkness of their skin and other characteristics, with Formosan aborigines, or possibly with natives of the Meinco-sima, or Lin-kiu islands. They had brought off some vegetables in their clumsy-looking sampans, which they bartered for tobacco and handkerchiefs, and made signs to us that, if necessary, more could be obtained. We rowed ashore through a curious little channel cut in the coral reef to enable boats to be launched at all states of the tide, and found that the whole village had turned out *en masse* to inspect us. The people were in many respects unlike the Chinese in appearance, being guiltless of pig-tail, and wearing the hair in a tangled mass behind. The huts were mud-built, and roofed with the leaves of the Pandanus, which grew in abundance throughout the island. Tied up to stakes in close proximity to them were several of the beautiful species of spotted deer peculiar to

Formosa (*Cervus pseudaxis*). Almost all of these were without one or other of the fore feet, most probably the result of having been caught in a trap. They had been brought over to the island as pets, and were exceedingly tame, but, somewhat to our disappointment, the natives were unwilling to part with them. In other respects, however, they were most eager to please us, asking us into their huts to rest, and presenting us with eggs and vegetables. As, however, we had more designs on the fauna than the products of the island, we started at once for the south-east side, hoping to pick up some birds and insects on our way. The crowd that accompanied us unluckily frustrated all our hopes, and we arrived at our destination empty-handed, and somewhat glad of a rest, which the villagers who had come over with us, in their anxiety to show us off to their friends, seemed by no means disposed to allow us. The island appeared to be fairly well cultivated, the chief crops being rice, Indian corn, and sweet potato, but the wilder parts, abounding in pretty valleys clothed with thick underwood, we had unfortunately no time to explore. From the south-east cape a coral reef stretches straight out to sea for a distance of two or three miles, on which a tremendous sea was breaking—the strong south-easterly wind of the morning having freshened into a gale.

On our return we were for the nonce appointed Inspectors of Schools for the Republic of Sanasana. We found the children collected in one of the usual mud huts, in charge of the first true Chinaman we had as yet seen on the island—an old gentleman of benevolent aspect, who was evidently much pleased with our visit. His pupils were learning their letters, but owing to our own ignorance of them we were unable to obtain a good deal of information which would have been most interesting to us. It speaks well indeed for the character of the islanders that such an institution should exist in so desolate a spot, where communication with China can only be of the rarest occurrence.

The wind still holding from the S.E., though somewhat stronger than we wished, we decided to sail for Formosa, regretting that we


FORMOSA STRAIT
MAP OF
FORMOSA
Longitude East from Greenwich
Taiwan Fu
Tainan
Takao
Pescadores
Lambay I.
Kagi
Kelung
Hong Kong
Swatow
Amoy
Double Peak
West Peak
Mt Sylvia
Mt Morrison
Dawan Lake
Sarasanga
Kapsulan R.
Miyako
Sulphur
Camphor
Timber
Tobacco
Rice
Coal
Gold
Indigo
Sugar
Poultry
Sweet Potatoes

had been unable to devote more time to this ultimate of Ultima Thules, and wondering for how many years the remembrance of our visit would remain an epoch in the Samasaman calendar.

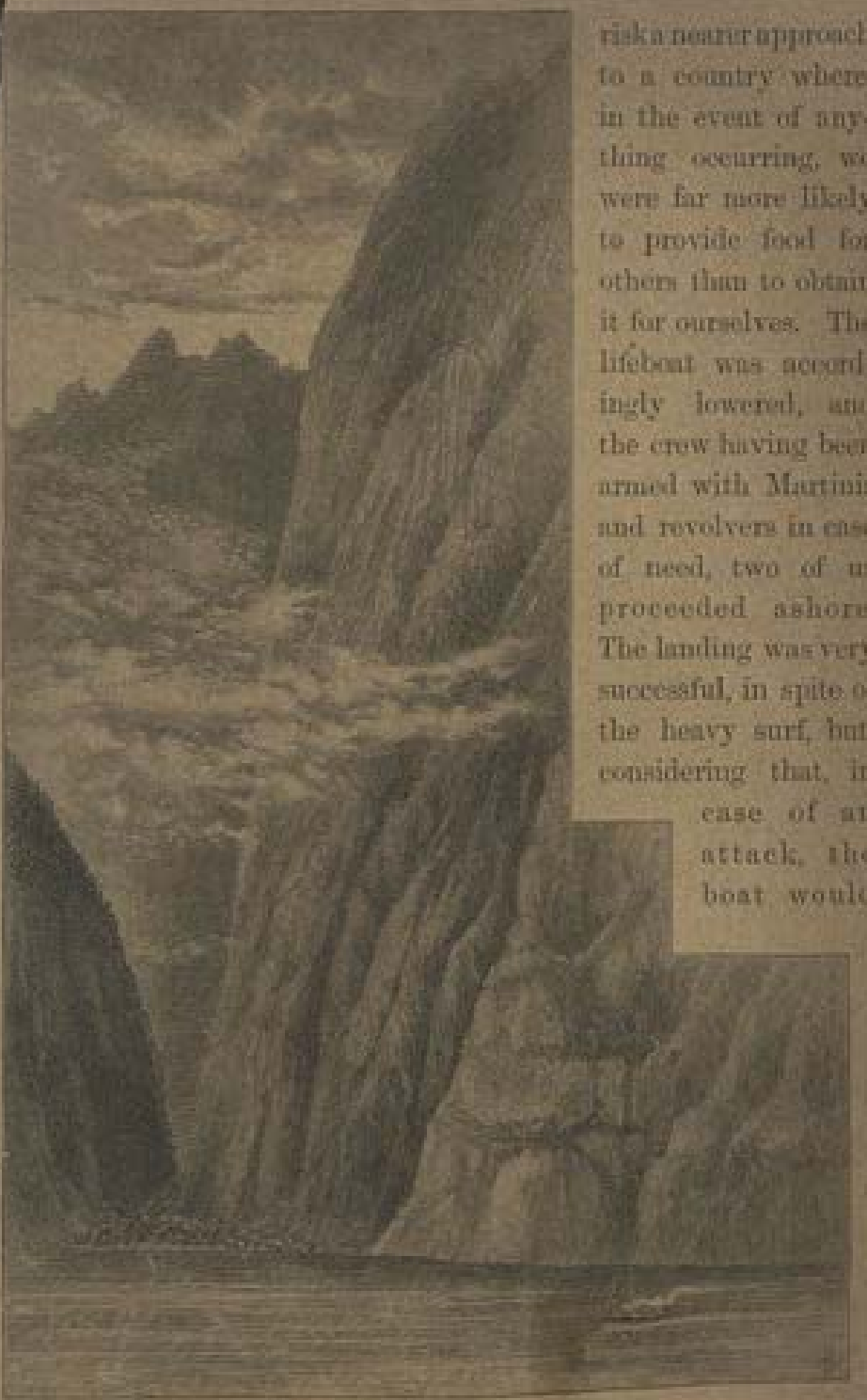
When that most prosaic, but useful publication, the "China Sea Directory" ventures upon superlatives, there is generally some tolerably good reason for it. "The coast from Chock-e-day to the northward," it informs us, "is the boldest and most precipitous that can be conceived, the mountains rising 7000 feet almost perpendicularly from the water's edge." Attracted by this, which may be safely termed a very respectable height for a sea-cliff, we decided to explore the coast and see if a tolerable anchorage and landing could be obtained, undeterred by the further information that "the aborigines were nearly naked, and used threatening gestures, brandishing their long knives and spears" when Commander Brooker attempted to communicate with them. We set our course northward at reduced speed during the night, and at dawn the mountains, shrouded in an impenetrable gloom of heavy clouds, loomed dimly through the mist on our port hand. We altered course, and crept in slowly towards them. Slowly the sun rose, and flushed the highest peak into a crimson glow. Beneath, the dark pall of clouds still hung, revealing here and there in its rents a region of still deeper gloom behind, and pouring its masses of sombre vapour across the face of the mighty cliffs. The sun, as yet invisible to us, had flecked the dull gray of the sky above us with scattered lines of pink, and as our little ship heaved lazily to the long easterly swell we gazed spell-bound across an inky sea at a sight which, even to the most phlegmatic among us, seemed beyond expression magnificent. Higher and higher the misty curtain lifted, now hiding, now disclosing peak and pinnacle and gorge. Broader and broader grew the line of rosy light, thinner and brighter the veil of cloud. Day had conquered night, and, at last, distinct and clear, save where, half way up its face, a thin long line of snow-white cloud hung motionless, the highest sea precipice in the known world lay unveiled before our eyes. It was superb.

There are few more stupendous cliffs than those of the Yosemite Valley in California, and if any one wishes for a sensation of height, combined with others, to a novice, of a less pleasing nature, he has only to

"Hang half-way down,
As one that gathers samphire—dreadful trade,"

in search of birds' eggs over the grand sea-wall of Hoy in the Orkneys. I have dropped my pebble over the edge of the 2000 feet of perpendicularity which the Penha D'aguia in Madeira opposes to the Atlantic surges, and have admired the glories of the iron-bound coast of Norway. But all these fade into nothingness beside the giant precipices of Formosa. Surely the Portuguese must have sighted the island from the north or south. Had they made their first acquaintance with the low flat shores of the western side, the name would never have occurred to them. Had they seen it first from the east they could not have stopped short of a superlative.

We passed the village of Chock-e-day, or rather its supposed position, for neither it, nor the river marked in the chart in this latitude, were to be seen. The short, sharp gale of the previous day had dropped before sundown, but had left a somewhat heavy swell behind it, which caused the *Merrchase* to roll steadily. We kept close in to the land, the appearance of which, if anything, increased in grandeur. The gigantic wall of rock is cleft every few miles by huge gorges, which in the rainy season must pour immense volumes of water into the sea, as is evident from the size of the boulders in their beds. Now, however, they were dry, or nearly so, and looked tempting enough, forming as they did a practicable highway into the interior, which is otherwise well-nigh inaccessible, owing to the denseness of the vegetation. Off the mouth of one of these, in a position that noon observations gave us as 24° 14′ N., we ran closer in-shore, with the intention, if possible, of anchoring, but, getting no soundings with 100 fathoms, we decided that it would be better to keep the ship standing off and on rather than to



risk a nearer approach to a country where, in the event of anything occurring, we were far more likely to provide food for others than to obtain it for ourselves. The lifeboat was accordingly lowered, and the crew having been armed with Martinis and revolvers in case of need, two of us proceeded ashore. The landing was very successful, in spite of the heavy surf, but, considering that, in case of an attack, the boat would

GORGE AND PRECIPICE (3000 FEET,) EAST COAST OF FORMOSA.

be better lying off a little distance from the shore, she was relaunched, an operation which took some little time, and which resulted in her becoming more than half filled with water.

The valley was grand in the extreme. The entrance was guarded by magnificent cliffs, which rose to a height of over five thousand feet, the lower third being almost perpendicular. Excepting on the sea face, these mountains were clothed from base to summit with the densest vegetation, of which the rattan and innumerable ferns formed a conspicuous feature. The river bed, composed of large, water-worn quartz pebbles, was dry, save for the presence of a small stream of clear and ice-cold water. It was barely 500 yards in width, and narrowed rapidly as we advanced, the mountains rising almost straight up on either side for some thousands of feet, and effectually precluding any attempt to penetrate the jungle. Continuing onwards for a couple of miles, and rounding an abrupt bend in the valley, the river bed widened out into a sort of circular basin, and a view of unsurpassed magnificence lay before us. At the farther end the river was seen to debouch by a narrow gorge into the pebbly amphitheatre at our feet. The mountains had closed in, and towered above it to a yet greater height than those we had left behind us, ridge crossing ridge in glorious confusion: a chaotic jumble of Nature on a Titanic scale, over which the densest tangle of tropic vegetation ran riot.

"A valley terrible
As that dim gulf, where sense and being swoon
When the soul parts; a giant chasm strewn
With giant rocks—asleep, and vast, and still."

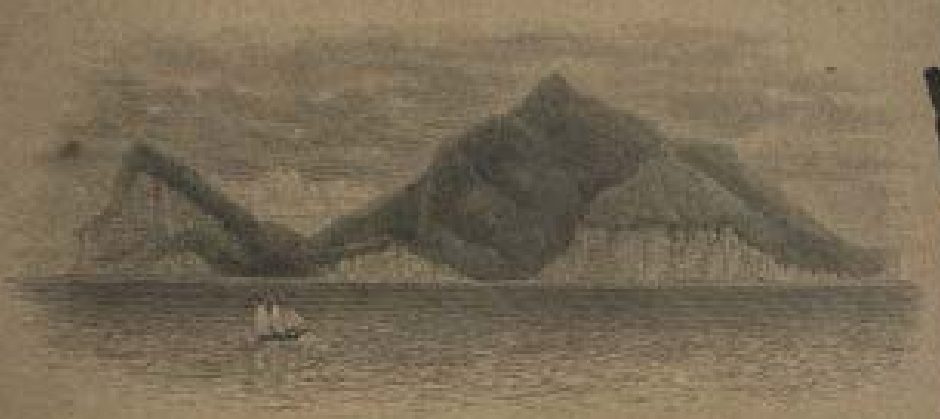
It was hard, indeed, at this juncture, to have to turn back. But, alas! the commonest prudence dictated a retreat without loss of time. For an hour or more the strong breeze blowing up the valley had warned us that, before long, all communication with the ship might be cut off, a contingency that we hardly cared to contemplate, so, reluctantly enough, we set our faces seaward.

On our return we crossed our old track by the side of the little stream, and, to our astonishment, came upon the fresh footprint of a native who had evidently been reconnoitring our movements. Possibly he had foreseen that there might be some difficulty in adding the four white heads to his collection; possibly he was not unwilling that his friends should share in the amusement. At any rate he had disappeared, no very difficult matter in the thick bush around us, and we saw no further trace of any human being, although, some little distance beyond, we came upon the ruins of an evidently long-deserted hut. On getting to the beach we found the surf too high to admit of bringing in the boat, and accordingly had to swim out to it; an operation that, with our guns and other gear, was a somewhat protracted one, though greatly facilitated by a life-belt and line, which had been brought in case of need. The wind and sea had increased considerably since the morning, and our prolonged absence caused no little anxiety to those on board. The signal guns that had been fired for the recall of the party had been inaudible, a contingency that had never been suspected, and it was feared that the delay in our appearance might be due to a collision with the natives.

From a naturalist's point of view the excursion had been a failure. One solitary bird only had been seen, and, but for a large snake[1] which had been caught napping among the hot stones in the bed of the valley, our game bag would have been empty. As it was, however, it was most uncomfortably full, for the creature measured nearly nine feet in length and was of very respectable thickness. Other game there was none to be seen, although spoor both of deer and wild cat appeared tolerably abundant, and to judge by the numbers we had seen captive in Samasama, the former must be in some parts extremely common. We had hoped to obtain it, and possibly also Swinhoe's deer, another species peculiar to the island, but the absence of anchorages and the

[1] A very handsome species, which I have failed to identify, the under surface golden yellow, and the back dark, shot with bright opalescent reflections.

exposed nature of the coast rendered a further stay inadvisable, and we accordingly shaped our course for the port of Keelung at the northern end of the island, passing Steep Island, singularly bold and picturesque in outline, on our way.



STEEP ISLAND, FORMOSA.

Keelung is Chinese; markedly so, indeed, as far as regards the dirt and odours of the place. That it is beautiful goes, of course, without saying, for it is on an island which, save for its western coast, deserves an even more flattering name than that bestowed upon it by its discoverers. Its beauty is the beauty of a labyrinthine mingling of sea and land, of the light green foliage of the feathery bamboos, of quaintly situated huts, and of the still quainter pinnacles and cliffs so characteristic of the limestone formation. But its enchantment, as is the case in most places where the Celestial has had anything to do with the landscape, is a loan from distance, and a nearer acquaintance introduces one to a million unsavourinesses to which the occidental barbarian is happily a stranger. Fortunately, however, even the "most ancient and fish-like smell" can in no way affect the utility of a harbour, and the town owes its prosperity not only to the proximity of the coal-beds, but also to the fact that the port is one of the very few worthy of the name throughout the whole island. The two hundred miles of

s and precipices that face the surges of the North Pacific afford shelter whatever save the solitary bay of San-o. The very erence of the coast on the western side produces the same ult, and the shallow ports of Takau and Taiwan are of but tle use to European shipping. So Tamsui and Keelung to the orth alone remain to dispute the palm, and, although the former n claim a considerably larger interior trade, Keelung can safely ly upon her coal-fields for supremacy until electricity shall have supplanted steam.

We found our Acting Consul the only Englishman in the port, and, thanks to his kindness, our visit was a most pleasant one. The country round is charming in its rich green dress of bamboo groves and paddy, and in the enjoyment of it one momentarily forgets the far from Arabian odours that have to be encountered on one's return to the town. Japan in summer is unpleasant; China more than occasionally oversteps the limits of one's powers of endurance. But for breadth and expression, for solidity, tone, and execution, the perfumes of Keelung must rank far above those of either. Here the Sanitary Inspector existeth not, and carbolic is a thing unknown. No respectable disease can complain of not having a fair field. By all the laws that modern science has taught us, by all our researches in micro-organisms, by every sacred axiom of Medicine, we can confidently predict the certain death of every inhabitant in the course of the next two or three days, although, with the habitual caution of a physician, we may admit the possibility of one or two of the strongest lingering until the end of the week. But next day everything is as usual, and the fat old gentleman who constructs the queer little boats that in China do duty for coffins does not seem to be suffering from any particular press of business. It is a hard matter to have to rid oneself of long cherished beliefs, but a prolonged residence in a Chinese city would, I feel sure, result in shaking the convictions of the fiercest sanitarian, and in time convert him to the advantages of the union of the main drain and the King's highway.

There is, of course, a waterfall at Keelung. So charming a p would be incomplete without one, and our visit equally so lac omitted to see it. So, packing ourselves away with some difficu in the Chinese chairs provided for us, and commending ourselves Kwan-yin, the Goddess of Mercy, during our passage through th town, we started on our journey. It was a Dragon Feast, and the streets were crowded with people. In the notion that enjoyment and noise are inseparably connected, the Chinese do not differ fro other more western nations, and the processions carrying the emblems were surrounded by a yelling, tom-tom-beating mass of humanity. In the harbour below us, boat processions of a similar nature were taking place. We struggled on through the narrow streets, past pigs wallowing in pink mud, past half-naked men devouring the unknown horrors of a Chinese dinner, past pools of filth and garbage indescribable, till on the outskirts of the town we were once more able to breathe freely. The heat was intense, and the cramped position necessitated by the native chairs rendered it so oppressive that we were only too glad to get out and pick our way on foot along the narrow paths between the rice-fields. Our way led up a little valley, the sides of which were luxuriantly clothed with bamboo. There are said to be no less than thirteen varieties of this plant in Formosa, and it is certainly one of the leading characteristics of the scenery at the northern part of the island. In no other part of the world have I seen the plumy foliage of so bright a green, or the sprays so light and feathery. Here it was of no great size, but on the western coast it is said to attain a height of nearly a hundred feet. We were not sorry to find ourselves at our journey's end, and, buried in masses of fern and moss, to lie and watch the little stream plunging into the cool, dark basin below. The island has, doubtless, many a mighty fall as yet unviewed by European eyes, deep in the heart of those magnificent mountains that have for so long remained a sealed book to us. But at that moment we would not have exchanged them for the quiet little cascade tinkling at our feet, and the feeling of placid

ent, unknown to those to whom the lands of coral and of t are a dead letter, was broken only by the thoughts of our , and a dim vision of the horrors of Keelung.

e returned to the realities of life on getting aboard, for we ered that the operation of coaling, which we had hoped to , was only half completed. The Formosan coal, which was discovered in 1847, is supposed to underlie a considerable ion of the island, though as yet very little has been done to termine the extent of the beds. The Keelung district is the ly locality where it is at present worked, and at no great distance om the town there are surface outcrops at several points. It is of a bituminous nature, and the quality, though good for domestic and such-like purposes is not very suitable for shipping, as it burns too rapidly and produces much smoke, while a still further objection lies in its liability to cake the furnaces. The Chinese for a long time worked the mines in the most primitive fashion, and many shafts were abandoned, owing to their having become flooded. But in 1876 English miners were imported, and at the present time there are several engaged in the superintendence of the collieries, and the output has been steadily increasing. Thus the export, which in 1871 amounted to 18,671 tons only, had risen in 1881 to 46,178 tons, and it has been estimated that as much as 500 tons *per diem* could be turned out without much difficulty.

We had contemplated going overland to Tamsui if possible, sending the yacht round to meet us at that port, and we were pleased to find that the journey was feasible. Starting at 4 A.M. on the morning of the 25th June we passed through the town, and ascending the hills behind it, reached a bare ridge which commanded a magnificent view of the harbour and islands below us. Dawn was giving place to daybreak, and the eastern sky and sea were flooded with streaks of blue and rosy light. The lake-like calm of the harbour was only broken here and there where a faint line of rippling on its mirror-like surface showed the track of some

lazily-moving junk. A faint blue mist hung over the to
away seawards the sharp pinnacles at the harbour's entranc
out ink-black against the burnished surface of the water
watched the scene as long as we dared, for our time was li
and then once more continued the ascent. Before long we re
the ridge which forms the boundary of the amphitheat
Keelung, and for the first time we were enabled to get a vi
the country inland. A succession of hills of peculiar formatio
before us, sloping gradually to the eastward, but with their west
sides almost perpendicular. They bore a singular resemblance
lines of waves breaking on a lee shore. Behind, the dark blu
masses of the Mount Sylvia range, 12,000 feet in height, were
visible in the distance, and appeared everywhere to be clothed in
thick vegetation. Our path led us down through a little valley
deep in azaleas and ferns, and after another mile or two we came
upon a small creek, in which we found two boats awaiting us, for
our land journey ended here, and the rest of the distance was to be
performed by river. For this we were not sorry, as the large flat-
bottomed sampans of light draught, which are specially built for
passing the shallow rapids with which the river abounds, are very
comfortable, and a great improvement on the native chairs which
we had just left. We soon got clear of the creek and into the
main stream, which is here, without any apparent reason, called
the Keelung River. At first shallow, and beset with numerous
rapids, it afforded us a certain amount of excitement of a mild
kind which passed off as we got further down stream. A large
amount of traffic appears to be carried on here, the river being
crowded with boats of all sizes, many of them deeply laden with
produce of various kinds. The river wound round the bases of
picturesque hills, covered, as usual, with bamboo, but cleared and
under cultivation in many places. The soil, it appears, is especially
suitable for some kinds of tea, and lately some has been grown
which has brought as much as a dollar per pound in the Chinese
markets. That usually produced is, however, of a much inferior

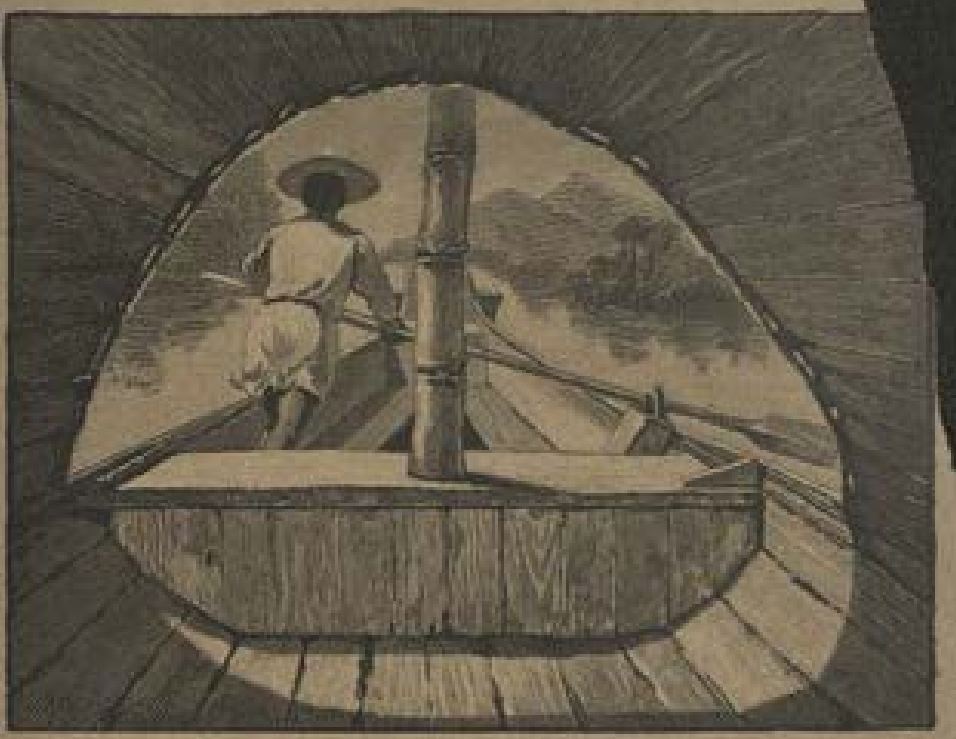
, but a considerable quantity is annually exported, the t increasing from year to year. In 1881 ninety-six thousand of 133 pounds passed through the Customs.

ds appeared to be numerous in the jungle by the river side, ack Drongo-shrike (*Chaptia brunnicrus*) especially so, while ear note of a Barbet (*Megalæma nuchalis*) was audible in all ions. Both these birds are peculiar to Formosa. They have epresentatives on the mainland of China, and their closest s are to be found in North India and Sumatra. A closer study the Formosan avifauna shows that this tendency to Indian and alayan, rather than to Chinese forms is most striking. The sland boasts of no less than forty-three species peculiar to it—an enormous number when we consider the fact that the Chinese coast is barely sixty miles distant—and, of these, twenty are representatives of regions other than the adjacent mainland. The same tendency is noticeable, perhaps to an even greater degree, among the mammals.

The above facts, our knowledge of which is almost entirely due to the late Mr. Swinhoe, teach us firstly that, as Mr. Wallace has shown,[1] Formosa should be classed among the recent continental islands, and also that, at the time of its connection with the mainland the ancestors of the Formosan, Indian, and Malayan forms were equally dispersed throughout the intervening and at that time undivided continent. After the separation of Formosa and the Malayan islands the altered geological and climatological conditions were such as to cause the disappearance of many forms of animal life except in localities where the required conditions, such as dense forests or high mountain ranges, still remained. The immense number of peculiar species, however, tend to show that Formosa must have become detached from the mainland at some tolerably remote period, for we know, from a consideration of our own, as well as of other islands, that the process of formation of a species is one of a by no means rapid character.

[1] "Island Life" A. R. Wallace, p. 471.

We paddled lazily down stream, glad to be protected fr
sun by the large arched bamboo awning of the boat, and
in the afternoon at Chui-teng-ka, a large Chinese town buil
the river side, and surrounded by trees and quaintly-shap
hills, which gave it a decidedly picturesque appearance. H



ON THE KELUNG RIVER.

found a rather interesting temple; the gateway of which was formed by two large monolithic stone pillars fifteen feet in height, and admirably carved. On the right hand was represented a dragon in very high relief, ascending the pillar with a round fruit or ball in his mouth, while, on the other side, the animal was descending, with the same object in his claw. Both execution and design were exceedingly good, and must have cost a considerable amount of labour, fully two-thirds of the stone having been cut away in the carving. The town was tolerably clean, or at any rate appeared so after

Keelung, which Mr. Taintor[1] has stigmatised as "the filthiest town in the universe," and we wandered about it attended by a small crowd to whom European manners and customs were doubtless a novelty. However well one may know China, there is always abundant matter for interest in the thousand and one objects and incidents of daily life that are to be met with in its great towns. Here is a stall surrounded by little children, who are hardly tall enough to place their money upon it. Yet they are not buying but gambling for the sweet-stuff that is to be had from the bleary-eyed old rascal that attends it. That small boy who has just lost, and thereby escaped the almost certain pains and penalties that the ingestion of the horrible-looking concoction on which he had set his heart would have caused him, goes away muttering words of which I am sure that his papa ought to be informed. He is young yet. In a year or two, should we remain in Chui-teng-ka,—which may Heaven forbid,—we should find him gambling still, but with a face as well-bred and impassive as that of the oldest hand round the board of green cloth at Monte Carlo. Farther on we come upon a hat shop, where the enormously broad, conical head-coverings that they affect in Formosa are being made. How deftly the half-naked, greasy operator plaits the leaves of which they are constructed! They are truly Malayan, these hats; of a genus that is found from Malacca eastwards to Ceram, through sweltering Borneo and Celebes, and the smiling Moluccas. Time and locality, just as in the case of the animal kingdom, have altered them somewhat in shape and material—have differentiated them into a new species, as a naturalist would put it, but the article itself is just as certainly of Malay origin as are many of the so-called aboriginal tribes of the island.

Below the town the river widens. Rice-fields appear, and the scenery becomes tamer, though the graceful tree-ferns and arrowy betel-palms redeem it from absolute dulness. Smooth, stolid Chinamen sat fishing by the river side, some wielding a rod of

[1] "Journal of the North China Branch of the Royal Asiatic Society." New series. No. IX. "The Aborigines of Northern Formosa," by E. C. Taintor, M.A., F.R.G.S.

bamboo, some guarding a square frame net much like that used in England for catching sprats and other small fish. While passing one of these, the phlegmatic owner became suddenly galvanised into what, in a Celestial, might almost be termed a state of excitement. He had caught a fish; but it was no sprat. Whether he ever landed it or not I cannot say, but its splashing

OUR SKIFFER.

was distinctly audible full half a mile away, and, if success attended his efforts, the fisherman must have provided himself and his family with dinner for a good week or more. A mile or two more brought us to the junction with the already united To-ka-lum and San-quai rivers, two large streams which convey all the produce of the interior to Tamsui. Some five miles up stream is the large town of Bang-ka or Meng-ka, a place of considerable trade, where

two or three representatives of English firms reside. In the neighbourhood, rice, sugar, indigo, and tea are grown, and camphor is obtained from those districts where the virgin forest has not as yet given place to cultivation. The export of the last-named article has of late years been decreasing, possibly owing to the amount of risk which attends its acquisition. The savages are ever on the alert near the edge of the jungle. A Chinaman's head is to them a sort of patent of nobility, for without one they are excluded from the council of their tribe. Poor Johnny collects his camphor in fear and trembling, and never knows but that the setting sun may find his pigtail dangling at the knife-sheath of an exultant savage, who is busying himself at the fire hard by in the cooking and proper preparation of his cranium.

Tamsui is an uninteresting port, in spite of the spur of the high northern range of Formosa which rises above it to the height of a couple of thousand feet or more. We were relieved to find that the *Marchesa* was safely at anchor in the harbour, for we had been somewhat anxious as to the possibility of her entrance. The bar is a very shallow one, having only eight feet of water at low tide. At high water, however, a further rise of a little over seven feet had just enabled her to cross it, though she could not have had more than three or four inches to spare beneath her keel. The great draught of the *Marchesa* was, in the following year, a constant source of anxiety to us in the navigation of the little known waters of New Guinea and the Malay Archipelago, for which a vessel of the type of an ordinary coasting steamer would have been far better suited.

The old Spanish fort, built nearly three centuries ago, is a conspicuous object, perched half-way up a hill on the eastern side of the harbour. It is now turned into our Consul's office. The red brick walls are of prodigious thickness, and, entrenched behind them, one could defy the grilling heat to better purpose than, in days gone by, the Hollanders had resisted the attacks of that fine old freebooter Koksinga, the Chinese pirate, who eventually swept them off the island. Pleasant enough it was to rest here, lazily

enjoying a cheroot, and to hear of old friends of undergraduate days, from whom a wanderer's life had separated us for many years; pleasanter still to think that there was a chance of meeting them again before long in China. But our time was limited, and a strong sense of duty being implanted in some of us, we were duly escorted to the sights of Tamsui. The most interesting was the consular prison. The two rooms, of the same date as the old fort, looked charmingly cool and quiet, and one wondered at their being unoccupied. When one learnt further that the *far niente* was the only occupation, and that tobacco was not forbidden, one felt indeed that the morality of the place must be something superhuman. It was a pity to spoil the thought by a further reflection that there were barely twenty Europeans from whom to select a tenant.

We had enjoyed our visit to Formosa even more than we had expected, and our regret at our departure was not lessened at having to leave behind us one of our crew, who had been seriously ill for some time. It must, doubtless, have seemed hard for him to be left practically alone in such a far-off land. But we had no alternative, as the voyage might very probably have proved fatal to him. Happily, the result was a favourable one, for, some months afterwards, on our return from Kamschatka, we heard of his recovery and safe arrival in England.

In these latter days of land trade and land-grabbing, the eyes of Europe have been turned with ever-increasing interest to the far East. Russia has acquired Saghalien and its coal-fields. Japan, anxious for the well-being of the Liu-kiu Islands, has invited the King to Tokio, and replaced him by a Governor of their own. The English, regardless of malaria and a poor soil, have established themselves in northern Borneo. But it is in Formosa, "the eye of the Empire of China," that the interest has of late been centred, and there are few of us who did not watch with curiosity for the *dénouement* of the Franco-Chinese comedy, where the one country, at peace with the other, was nevertheless bombarding its towns and blockading its ports. For the time the danger seems to have

passed, as it did in 1874, when the Japanese invaded the island. But how long the unoccupied portion of Formosa will remain so is another question, and, bearing in mind the great resources and important position of the island, its leading characteristics are worthy of a moment's consideration.

The island of Formosa, one-third only of which lies within the tropic, is some two hundred and ten miles in length, and about seventy in breadth. It is separated from the mainland of China by the Formosa Strait, which is barely seventy miles in width opposite Foochow, but nearly two hundred at the southern entrance. This channel is, however, somewhat narrowed by the Pescadores Islands, a group lying about twenty miles westward of Formosa, and possessed of good harbours. The soundings in this channel show the island to be connected with the mainland by a submarine bank submerged to a depth of from twenty to forty fathoms only. The eastern face of the island, however, abuts immediately upon the deep sea, and soundings of a thousand fathoms or more are found within a very short distance of its shores. It thus formed the eastern limit of the vast continent with which, at no very remote geological period, the islands of Borneo and Sumatra were also united.

Apart from the fertility of its soil, and its supposed richness in minerals, the geographical position of Formosa is such as to render it a possession of extreme importance with regard to Eastern trade. Swatow, Amoy, and Foochow lie actually within the Formosa Channel, while every vessel bound to and from the northern Chinese ports and Japan is obliged to pass through it. The total foreign trade of the latter country is valued at over twelve million pounds sterling, and of this Great Britain absorbs more than two-thirds. The foreign trade of China is, of course, considerably greater. In 1881 it amounted to over forty million pounds, of which nearly thirty-two million was credited to England and her colonies. The occupation of Formosa by a nation possessing a fleet of any strength, would therefore prove a most serious affair for England in the event of war. The island has often been described as without harbours of

any value, but this is hardly correct. It is true that Tamsui and Keelung are the best; that they are both exposed to the violence of the north-east monsoon; and that the former is not available for vessels of a greater draught than sixteen feet. But the extensive harbour of Ponghou in the Pescadores Islands is complemental to them, and affords excellent shelter from northerly gales, while the smaller anchorage of Makung within it is perfectly safe during typhoons. In both monsoons there are thus good ports available, while from December to March good anchorage can be obtained off Tai-wan and other places on the south-west coast.

The orographical characteristics of Formosa are very peculiar. The gigantic precipices of the east coast have already been alluded to. The entire eastern half of the island is composed of lofty mountains covered with dense jungle, which, towards the centre of the island, rise to a height of nearly thirteen thousand feet. At its northern and southern parts the country is also mountainous. The western side, however, is extraordinarily low and flat, and runs back as a vast plain almost to the foot of the central range, which here rises with extreme abruptness. The results of these peculiarities in the physical features of the country are most marked. From various causes the rainfall of the central and northern parts of the island is excessively heavy. The gradients are so steep that erosion takes place to a very great extent, while the soil is, for the most part, of such a nature as to disintegrate with great rapidity. We find, therefore, that the amount of detritus brought down is enormous, that the mouths of the rivers are blocked with sand-banks, and that the land is gaining on the sea to a considerable extent. The old Dutch fort Zealandia, built on an island in 1630, is now two-thirds of a mile from the sea, and the city of Tai-wan, under whose walls vessels could at that time lie at anchor, is now only accessible to cargo boats by means of a narrow creek. Nature is striving once more to unite the island with the mainland from which it has so long been separated.

Although there are no active volcanoes in Formosa, there are

A CREEK ON THE KEELUNG RIVER. Page 22.

constant evidences of volcanic agency throughout the island, which show that it forms a link in the great chain which runs from Kamschatka southward to the Philippines. Hot springs and solfaterras are found in the neighbourhood of Tamsui, and, in spite of the working of the sulphur being forbidden by the Chinese Government, a large quantity is produced and exported to Hongkong. Mineral oil has also been discovered, but, as yet, it has not developed into an article of export. The Chinese are not a mining people, and the three or four million of them that people Formosa are content to gain their living, for the most part, as cultivators of the varied vegetable products that the rich soil so readily affords them. They divide the island pretty equally with the aboriginal savage tribes, but a mere glance at the physical features of the country, as exemplified by the map, is sufficient to show broadly the distribution of the two races. The aborigines, or rather the natives sprung from Malayan stock (for there is a doubt as to whether they are not the successors of a race now extinct), are now confined to the rugged mountain country of the eastern and southern districts, while the Chinese are limited to the plains of the western part, and to a small extent of country at the north of the island. Year by year the latter steadily advance in their search for camphor, but the advance is slow, and the ground only gained at the cost of many a Chinaman's head. The trees from which this drug is obtained are of considerable size, and are only found in the primeval forests. They are felled for the timber, which fetches high prices in Hongkong and other Chinese ports, and is chiefly used in the construction of boxes and chests of drawers. The smaller wood is broken up and heated in iron retorts, and the camphor, on subliming, is collected and packed in barrels, and sent down to the northern seaports for exportation. In spite of the almost inexhaustible supply that must still exist in the dense forests of those parts of the island inhabited by the savage tribes, it is noteworthy that the export has of late years steadily diminished, and in 1881, 9316 piculs only passed the

Customs at Tamsui. But there are other far more important articles of export than either camphor or tea. Enormous quantities of rice are grown in the plain country, and sugar is produced in abundance in the same district. Jute, indigo, tobacco, grasscloth fibre, rattans, and rice paper are other products in which a considerable trade is carried on. The last named, with which we are all familiar as the substance used by the Chinese for painting on, is the pith of *Aralia papyrifera*, a plant peculiar to Formosa, growing wild in many parts of the island. It is pared concentrically by hand, and the thin sheets produced are moistened and joined at the edges, and finally pressed and dried, when it is ready for the Chinese artist to depict upon it the discords in red and green he so generally affects.

Formosa, without being in the strictest sense of the word a tropical island, is nevertheless extremely hot, and, although during the winter months wheat is grown in considerable quantities in the Tamsui district, and is of better quality than that of the mainland, the average temperature is high as compared with that of the same latitude on the coast of China. The rainfall in the northern and eastern parts of the island is very heavy during the prevalence of the North-east monsoon. Thus from November to the end of April, over one hundred inches fall at Tamsui. This is, without doubt, due to the eastern homologue of the Gulf Stream —the Kurosiwo or Japanese current. The monsoon blowing over its heated waters, and coming in contact with the great mountain ranges in the north and centre of the island at once precipitates its surcharge of moisture.[1] Formosa thus acts as a sort of umbrella for the eastern coasts of China, and the winter and spring are, consequently, a period of almost uninterrupted sunshine in the latter region.

During our visit to Formosa, the "typhoon season" had not fairly set in, and the *Morchosa*, though destined later to come in for the full strength of one of those extremely unpleasant natural

[1] "China Sea Directory," vol. iii. p. 250.

phænomena off the coast of Japan, experienced no heavy weather of any kind. Storms are, however, of no unfrequent occurrence between June and November, and the typhoons met with in the neighbourhood of the island are not less severe than those of the Philippines. And, although no such tidal waves and earthquakes as have on more than one occasion devastated Manila, have ever been recorded, Formosa is no stranger to either phenomenon, and it is probable that, taking these and other climatic eccentricities into consideration, the visitor, unless he be a naturalist, will subscribe to the opinion once expressed before the Geographical Society by a distinguished traveller, that Formosa, like Ireland, is a very good country to live out of.

CHAPTER II.

THE LIU-KIU ISLANDS.

Uncertainties of navigation — Geographical characteristics of Liu-kiu — Former visitors — Orthography of Liu-kiu — Napha-kiang — Enormous crowds — Two American waifs — Walled streets — Napha-kiang market — We interview the Vice-Governor — The Liu-kiuan type — Peculiar method of dressing the hair — Tattooing — Tombs and burial customs — Altars for burning hair — The inner harbour — A sunset dance — Dinner habits of the Japanese.

We left Tamsui on the evening of June 26th, having crossed the bar without accident. Hauling clear of the northern end of Formosa we sighted Pinnacle Island, a lonely rock peopled with myriads of sea-fowl, and shaped our course east for the Liu-kiu Archipelago. We were without a general chart of these seas, and were accordingly compelled to trust to the information afforded by the Sailing Directories. The result was hardly satisfactory, and, had daylight not befriended us, might indeed have proved somewhat more than unpleasant. The Hoa-pin-su group of islands lay directly in our course, and on sighting them early in the morning we were surprised to find them much farther off than we had expected. We at first attributed this to a strong head current, but, on taking an observation, we discovered that the islands were in reality twenty-three miles farther to the east than the position assigned to them. We then altered course to pass well to the north of Raleigh Rock, a solitary island some hours' steaming to the eastward, discovered by a ship of that name in 1837. It was with considerable astonishment, therefore, that we sighted it well on the port-bow. Another ob-

servation revealed the fact that, like Hoa-pin-su, its position had been erroneously given in the "Directory," where it is stated to be twenty miles further to the south than it actually is. We discovered afterwards that these islands are correctly marked on the chart, but, in spite of all the virtues of "the lead and a good look-out," we were not sorry to turn in that night with the happy consciousness of a clear sea and no dangers.

It was with no little pleasure that we looked forward to our visit to the Liu-kiu Islands. Captain Basil Hall's well-known account of them in the "Voyage of the *Alceste* and *Lyra*" is so prepossessing, that every one who has read it must long to make acquaintance with a people so unsophisticated: a quiet and peace-loving race to whom traders'-rum, guns, and other implements of civilisation are practically unknown, and whose natural tendencies seem to be towards virtue rather than vice. In these latter days of omniscience, when no land of Arendy, no *pays de Cokaygne*, lure the traveller to undertake fresh hardships in their search, it is rare indeed to find any country at all approaching one's notions of a terrestrial paradise, but Liu-kiu and its inhabitants, as depicted by Captain Hall in 1816, appear to attain to within an interesting distance of one's ideal, and we were curious to know how far the changes of three-quarters of a century had served to destroy the many charms of the self-styled "nation that observes propriety." Happily we were not doomed to be disenchanted.

The Liu-kiu group lie some two hundred and fifty miles to the east-north-east of Formosa, which, in defiance of every political and geographical reason, was, in the early days of Chinese commerce, called Little Liu-kiu. Okinawa-sima, which is the largest island of the archipelago, from its greater commerce and population, was known as Great Liu-Kiu—a name it has retained to the present day. The islands extend north and south for about three degrees of latitude, and lie just north of the tropic, a position that permits the growth of the crops both of temperate and sub-tropical regions. They are partially volcanic, and thus form one of the links in the

great plutonic chain that skirts the eastern shores of Asia, and, passing southward through the Philippines and Moluccas, joins the southern and yet more remarkable belt which traverses Sumatra, Java, and the islands to the eastward. Although between three and four hundred miles distant from the mainland, they are separated from it by a somewhat shallow sea. Immediately to the east, however, as is the case in Formosa, soundings of great depth have been obtained, and though at present our knowledge of the fauna and geology of the country is meagre, there is but little doubt that at one time connection must have existed with the mainland of Asia. Lying so far from the beaten track, it is not surprising that the islands have remained so imperfectly known, and the disinclination of the inhabitants to permit of the exploration of their country has proved a still further barrier to our knowledge of them. The first detailed account of the group in later times is due to Captain Basil Hall; H.M.S. *Alceste* and *Lyra* having remained at Great Liu-Kiu for a period of about five weeks in the autumn of 1816. Dr. Macleod of the *Alceste* also described their visit in another volume. In 1849, Mr. Halloran paid a short visit to Napha-kiang, but was apparently not permitted to go beyond the confines of the town,[1] and in the following year the Bishop of Victoria spent a week on Okinawa-sima, and visited Shiuri, the capital. It is, however, to Commodore Perry, in his "Narrative of the Expedition of the American Squadron to the China Seas," that we owe the most complete and detailed account of the archipelago. His experience extended over a period of some months, and ended in July 1854 in a treaty or compact between the two countries, in which the Liu-kiuans agreed to show every courtesy to ships sailing under the American flag. Since that time little or nothing appears to have been written about the islands, with the exception of two papers published in the "Transactions of the Asiatic Society of Japan."

Early on the morning of June 28th we sighted Komisang, the

[1] A. L. Halloran "Eight Months' Journal kept during Visits to Loochoo Japan, and Pootoo." London, Longman and Co., 1850.

westernmost island of the Liu-kius, and left it to the north, our destination being Napha-kiang, the chief seaport town on Okinawa-sima. This island is the only one of real importance in the Archipelago, the others being, for the most part, of very small size. It is sixty miles in length, and from five to ten in breadth, and from its irregular shape and fancied resemblance to a dragon the name of Riu-kiu, or Liu-kiu is, probably erroneously, said to be derived. Few places, I should imagine, have exercised the orthographist to a like extent. By quaint old Purchas, who, by the way, speaks of the inhabitants as being "a well-shapen people, white, politicke, and of good reason," the name of the island is given as Lequio. The Spanish traveller Gualle[1] talks of them as the Lequeos, and while to the Japanese, with whom the labials *l* and *r* are interchangeable, they are known as the Rin-kin Islands, they have been variously written of and described by the English as the Liew-kiews and Lew-chews, and finally, still more phonetically, as the Loochoos. Kaempfer calls them the Liquejo islands, but if a mean of these varied spellings be taken, Liu-kiu will nearly approach the result, and is more correct if, as may justly be concluded, the name be of Chinese origin.

During the morning we were passing the numerous islands of the Kerama group, which, though small, appear to be highly cultivated, terrace rising above terrace with the utmost regularity. The islanders are born agriculturalists, and are less dependent on "the harvest of the sea" than might, from their apparent opportunities, be supposed. Napha-kiang is situated on the western coast of Great Liu-kiu, close to its southern extremity, and the harbour, owing to its being surrounded to a great extent with reefs, is a tolerably safe, though somewhat restricted one. The appearance of the town as seen on approaching is decidedly picturesque. It is Japanese in character, yet at the same time possessed of such marked peculiarities that the traveller feels at once that he is in a new country. To the right a long, low, battlemented wall guards

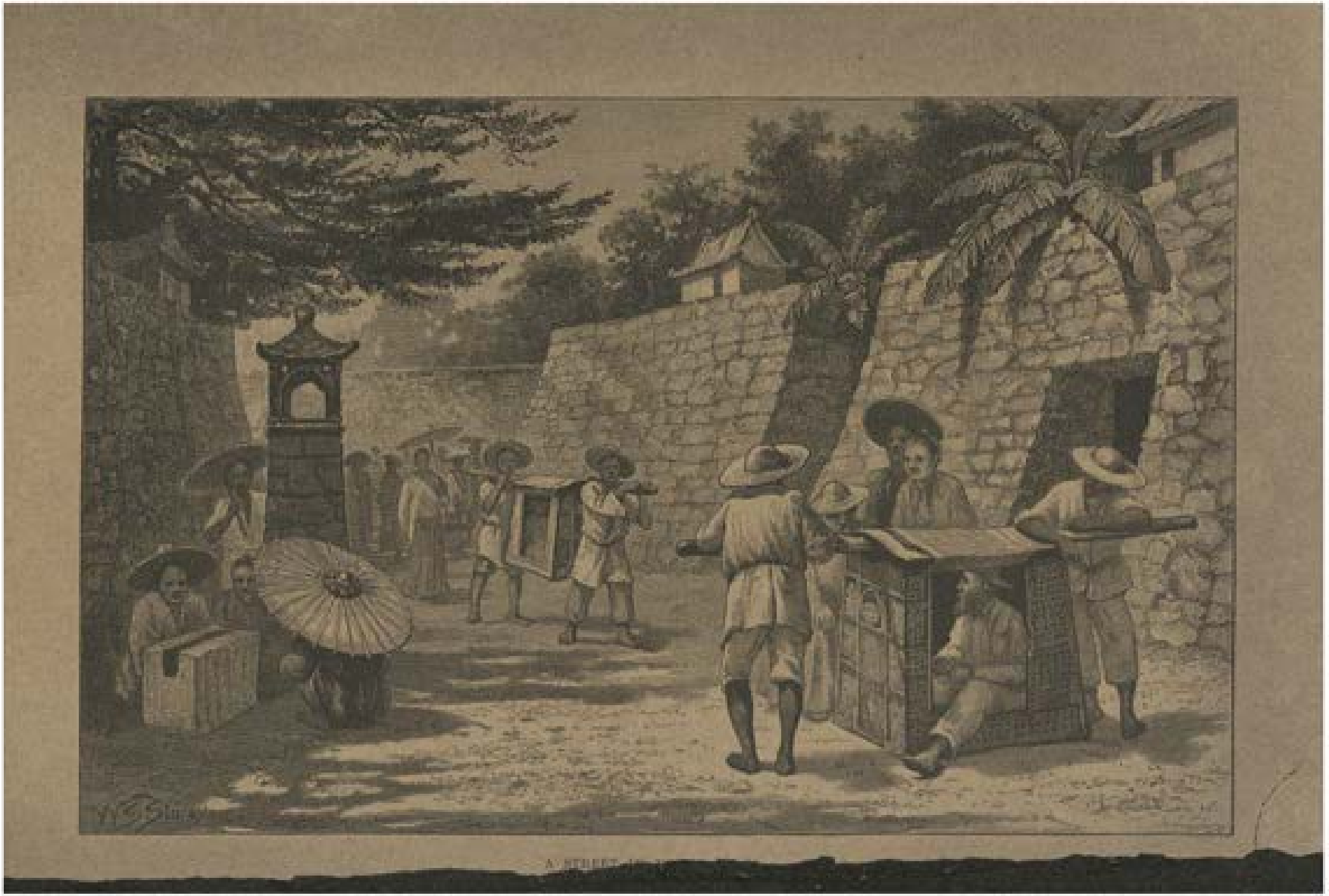
[1] "Hakluyt," vol. iii.

the entrance to a little river, which affords shelter to the half-dozen or so of Japanese junks that are busily engaged in discharging cargo. The town, half buried in trees, with the red roofs of its houses only visible here and there, seems to have wedged itself between the dark green waters of the harbour and the base of the low hills behind. Northward it is flanked by a square headland of limestone, which, with its flat top and perpendicular cliffs, rather resembles some gigantic box than the freak of Nature that it is. Around it the graves of past generations lie thickly clustered, dotting the hillsides in every direction. Clumps of bamboos and bananas surround the isolated cottages scattered over the slopes, and field after field of mingled green and gold stretch up as far as the eye can reach to the craggy, pine-crowned heights of Shiuri, the capital of the island.

We dropped anchor at 2 P.M. Few signs of life were visible in the town. A group of long-robed natives were promenading the cliffs, and stopped to regard us with evident curiosity. Before long it was evident, however, that our arrival had become more generally known, and crowds of natives flocked to the cliffs, manifesting no little excitement. A European ship was plainly no everyday sight to them. We rowed ashore, and landed on an excellently-built pier in the inner harbour. The crowd had been increasing every moment, but, though we had been watching it from the ship, we were hardly prepared for the dense sea of human faces that confronted us as we stepped from the boat. There was no disorder or horseplay, such as would have been the case in England, and those in our vicinity bowed to us as well as their position would allow them; but it was with the utmost difficulty that we were able to make our way through the dense mass of humanity surrounding us. Every one was bent upon getting the best view possible, and it was somewhat ludicrous to watch the desperate efforts of those at the edge of the jetty to retain their position on the few inches of *terra firma* which were slowly but surely diminishing beneath their feet. Not a single woman was visible, but

many children, perched on their fathers' shoulders, regarded us with solemn infantine wonder, not unmixed with quiet approval of the sights provided for them. Some years of travel in uncivilised lands will do much to accustom the wanderer to being stared at, but I must confess that I had never before had the consciousness of the peculiarities of European dress and general appearance so forcibly impressed upon me. As we struggled slowly on, our immediate neighbours anxiously endeavoured to make room for us, evidently considering that contact implied a breach of good manners on their part. Our progress, however, was not rapid, and just as we were beginning to wonder whether we were ever destined to reach the town, the crowd parted in front, and a Japanese official appeared. We were the bearers of letters of introduction from Nagaoka, formerly Japanese Minister to the United States and to the Court of Holland, whose cousin was at the time Governor of the Liu-kius. These we entrusted to our newly-arrived friend, but, being as guiltless of the Japanese language as he was of our own, we were obliged to pursue our way in silence. We were led through the town to the police station, or what apparently corresponded to it, but owing to the numbers of people who still accompanied us, we had but little opportunity of observing our surroundings. The house, situated in a little compound, the entrance to which was overhung by a magnificent *Ficus* with a quaintly gnarled and twisted trunk, was built in Japanese fashion, entirely of wood. The rooms were open at the sides, the sliding, paper-covered panels having been drawn back, but the beautifully clean mats that would in Japan have covered the floors were replaced by a red and green carpet that could only have owed its origin to English or German taste. A table and some chairs still further de-orientalised the room, but, alas! the one thing foreign that we most needed—a European language of some kind—was apparently not forthcoming. We accordingly drank the Japanese tea provided for us, and smoked thimblefuls of tobacco out of the tiny pipes used alike in Liu-kiu and Japan, until something should occur.

Before long we were considerably astonished at the appearance on the scene of an individual whom, at first sight, we took to be an English missionary. Dressed in a long coat of broadcloth reaching nearly to his heels, and with his nether man encased in a pair of buckskin breeches, he presented a somewhat extraordinary appearance, which was further heightened by a haggard face and a pair of deep-set, hawk-like eyes. He informed us that he was an American, and that he had resided at Nipha for some months in company with another "gentleman from the Western States." At a later period of our visit the Liu-kiu authorities asked us if we could afford them any information as to the object of their two visitors, at the same time suggesting that it might possibly be very pleasant if we could offer them a passage to Japan in the *Marchesa*. In our reply we regretted that we were unable to afford them assistance in either particular. Only three Europeans have, I believe, previously resided on the islands, and in each case the most rigorous surveillance was exercised over all their movements. A special guard invariably attended them, and, though subjected to no insults or annoyances, little or no liberty was allowed them. A similar system appeared to have been followed in the case of our American friends, and, although they had been on the island for so long, they had never been permitted to go outside the town. The Europeans one meets with in the holes and corners of the world are, in ninety-nine cases out of a hundred, either scientific travellers or missionaries. If they fall under neither of these categories one does not seek to enquire further, and we were quite content in the case of our two acquaintances to limit ourselves to the acquisition of such information on the subject of Liu-kiu and the Liu-kiuans as they were able to afford us. They did not appear, however, to have acquired much knowledge of the language, and we should have been reduced to conversation by signs had it not been for the arrival of an amusing little Japanese doctor, who was possessed of a vocabulary of some thirty or forty English words, and nearly as many of French. From him we learnt that the Governor of the Liu-kius had just



gone to Japan, but that his place was filled by the Vice-Governor, who had received our letter and would see us in the course of an hour. We accordingly resolved to explore the town meanwhile, and set off in company with our little Japanese friend, whose presence served to free us from the enormous crowds that had so interfered with our movements on our first arrival.

The streets have a most peculiar appearance, owing to the houses being built in little compounds, and separated from the street and one another by massive walls from eight to fourteen feet in height. These walls are of great thickness, and slope outwards at the base in the same manner as those of the old feudal castles of Japan. They are composed of large blocks of coralline limestone, and are most beautifully built. For the most part they appear to be of considerable antiquity, and we did not come across any which led us to suppose that the islanders continue to build them at the present day. They were no doubt originally constructed for purposes of defence, most probably on account of the difficulty of defending the town as a whole; and, in the days of the infancy of artillery, the enemy would have gained but little had they entered the city, while they would in every direction have been exposed to a cross fire which must speedily have decimated them. Every man's house is literally his castle, the entrance to which is through a narrow and easily-defended door in the high wall. Within, however, the scene changes, and in a second of time one is transported to another country. The houses, built entirely of wood, and dark brown with age, display their interior with the inviting hospitality so characteristic of Japan. The inmates, ignorant of the chairs and tables of Western civilisation, recline peacefully on the thick oblong mats neatly plaited of rice straw, and play at shattering their nerves with the contents of lilliputian tea-cups and still more lilliputian pipes. Outside is the familiar garden that all of us, whether from books or from actual experience, know so well. The pebbly paths leading to miniature bridges over embryonic lakes, the little stone lanterns, the quaintly-clipped trees—all are

Japanese; and, as one makes a rapid passage back to the Lin-kin Islands through the gate, not a shadow of doubt remains in one's mind as to the justice, ethnographically speaking, of their having fallen under the dominion of the Mikado.

We sauntered slowly about the town under as hot a sun as I have experienced either within or beyond the tropics, and in the course of our rambles came suddenly upon the market-place. We had seen but few women previously, but here we had abundant opportunities of satisfying our curiosity, for the whole business of stall-keeping devolved upon the fair sex. Our appearance at first created some alarm, and many deserted their posts and took to flight; but after a time they became reassured, and we were able to walk about and inspect their wares without creating a panic. The scene was a curious and interesting one, but it lacked the busy life and movement that in other parts of the world are the chief features of a market-place. Beneath the shade of some scores of umbrellas sat, or rather squatted, a like number of women, each with an oblong box about the size of a small portmanteau in front of her. The contents we found, to our disappointment, to be of a very uninteresting character. Common crockery, apparently imitated from Japanese designs, and not of particularly good shape, was abundant, the chief articles being cups and small tea-pots. There were also pipes and pipe-cases, cotton, hair-pins, course cloth, cheap fans, and common lacquer trays and plates; but these seemed to comprise the collective stock-in-trade of the whole market, and with the exception of the hair-pins, to which I shall have to allude presently, there was nothing whatever to tempt us. Neither was there any temptation to essay a lesson in Liu-kiuan from the fair stall-keepers, who were for the most part of a certain age, and singularly unattractive; so, on the arrival of a message from the Vice-Governor, we at once proceeded to his house.

We were received with some ceremony, and accommodated with chairs. Tea and pipes were then handed, the former of excellent quality. Japanese tea is at first much despised by Europeans,

whose palate has been spoilt by the strong black teas of China, but after a short time the peculiarly delicate flavour of the former comes to be much appreciated, and the traveller would not willingly exchange it for any other beverage he could name. It is drunk, like coffee in Turkey, at any hour of the day or night, and nearly as much attention is bestowed on its appearance, bouquet, and "feeling" as a glass of '47 port receives at the hands of a connoisseur, or a tumbler of water when tasted by a critical Greek. Its price varies to an extent unknown in Europe, and while it is possible for the poorer classes to obtain it for as little as twopence per pound, the Japanese of high rank will set before his guests a carefully-selected leaf which has perhaps cost him from eighteen to twenty shillings, or even more.

Before calling on the Vice-Governor, we had informed Uyeno, the Japanese doctor, that we particularly wished to visit Shiuri, the capital; at the same time explaining our position, and stating that the tenor of our letters of introduction was to the effect that every assistance should be afforded us in the event of our desiring to explore the island. This intelligence was apparently by no means particularly agreeable to him, and he at once suggested that we should visit Oonting—a port some forty miles to the northward—instead. We pointed out that the capital being only a few miles off, it appeared to us to be more easily accessible from Napha than Oonting. This was received in silence for some time, but at length he abruptly exclaimed, "I say, I hope you go to Oonting to-morrow." We then told him that we did not contemplate doing anything of the kind, that we had come to Napha with the express purpose of visiting Shiuri, and that we could not believe that the authorities would act in opposition to the expressed wishes of the Minister to the United States. With these remarks the conversation concluded, and the discussion was deferred until our visit to the Vice-Governor. Here we exchanged the usual civilities, and having drunk our tea, we again brought the subject on the *tapis*. We were then informed that it was against the law for any

foreigners to visit the capital; but, on our representing the fact that Englishmen had already done so, and delicately hinting that we had every intention of following their example, permission was at length rather reluctantly accorded, and we took our departure with the happy consciousness of having gained a victory which at one time had seemed more than doubtful.

The same enormous crowd attended us on our way to the jetty as had greeted us on our arrival; good-humoured and quiet as before, but bent on seeing the most of us. It was with no little relief that we rejoined our boat and found ourselves free at last, and with the prospect of unimpeded movement for the next twelve hours at least. We had had abundant opportunities of observing the physical characteristics of the Liu-kiuans. They are a short race, probably even shorter than the Japanese, but much better proportioned, being without the long bodies and short legs of the latter people, and having as a rule extremely well-developed chests. The colour of the skin varies of course with the social position of the individual. Those who work in the fields, clad only in a waist-cloth, are nearly as dark as a Malay, but the upper classes are much fairer, and are at the same time devoid of any of the yellow tint of the Chinaman. To the latter race indeed they cannot be said to bear any resemblance, and though the type is much closer to the Japanese, it is nevertheless very distinct. On first arrival in any country it is extremely difficult to distinguish tribal peculiarities. Thus, in South Africa, the "new chum" will be unable to tell a Basuto from a Zulu, or the latter from a Gaeka, though in the course of a few months he can do so at a glance. But here, in Liu-kiu, the Japanese and natives were easily recognised by us from the first, and must therefore be possessed of very considerable differences. The Liu-kiuan has the face less flattened, the eyes are more deeply set, and the nose more prominent at its origin. The forehead is high, and the cheek-bones somewhat less marked than in the Japanese; the eyebrows are arched and thick, and the eyelashes long. The expression is gentle and pleasing,

though somewhat sad, and is apparently a true index of their character. The beard, when permitted to grow, is long and black, though not what would be termed thick by a European. In the old men it is often snow-white and of considerable length. The

LIU-KIUAN OF NAFHA-KIANG.

hair upon the cheeks is scanty, and is generally kept shaved, and the moustache is also thin. A peculiar appearance is produced in some cases by plaiting the beard, and fixing the end into a sharp point by means of some adhesive. The mode of dressing the hair is peculiar, and is the same for every individual, male and female, rich and poor, throughout the country; although the custom is not always followed among the lowest classes of field-labourers and others. A small space is shaved on the crown of the head, and the rest of the hair, which is allowed to grow long, is gathered together

and twisted or plaited into a knot over the bald spot, which, however, it only partially conceals. It is apparently dressed with some cosmetic after the custom of the Japanese, and is then transfixed by two hair-pins—the *kwanzashi* and *saisashi*. The former is about four inches long, with a depression in the centre of the pin to prevent its falling out, and with the head expanded into the representation of a lotus flower. The other is two or three inches longer and in shape exactly resembles a marrow spoon. At ten years of

LIU-KIU HAIR-PINS (*Kwanzashi* and woman's *Odoshi*).

age the boys are permitted to assume the *saisashi*, but the *kwanzashi* is not worn until the age of puberty. The metal of which they are composed varies with the rank of the wearer. The lower classes have them of brass or pewter, and the literati and higher officials either of silver or gold, according to their position. No one, we were informed, would be permitted to wear the pin of a rank to which he did not belong. The women dress their hair much in the same way, but the top knot is rather larger, and is placed slightly to the right side. They use wooden or horn pins, one of which resembles the *saisashi*, but is much larger. It is hexagonal, and is in many cases constructed of alternate pieces of black and transparent horn, neatly joined by glue. The bowl at the end is as large as that of a salt-spoon, and must, one would imagine, be intended for some special use, though what it was I was unable to discover.

In most countries in which tattooing is practised the men are generally far more decorated than the women, but in the Liu-kius

this is not the case. The men have seldom any ornament of the kind, but the women have the hands tattooed in the manner represented in the annexed engraving. The pattern, which is in blue, and probably produced by Indian ink, is apparently similar, or very nearly so, in all cases; but the extent of it appears to vary according to the age of the individual. Thus the children have only the fingers ornamented, and the whole design as here represented is not completed until marriage. On the wrist, or just above it, is a Maltese cross—a design which would seem to have been in vogue for a considerable period, as it is given in an illustration in Beechey's "Narrative of a Voyage to the Pacific" in 1827.

TATTOOED HAND.

Our time in the islands being limited, we made the most of it by seeing as much as we could of the town and immediate surroundings of Napha-kiang, a dense crowd being invariably in close attendance during our peregrinations. One of the most striking features in the environs of the town is the number of tombs that everywhere meet the eye. They are usually built in the sides of the hills, and are of a horse-shoe shape, not unlike those of the Chinese. The hills, indeed, seemed set apart as cemeteries, and, in spite of the high cultivation around, were left untouched by the hand of the husbandman. The ground is dug away perpendicularly on the slope in the shape of a semicircle, and in the vertical face thus formed a small vault is constructed. The perpendicular sides are built up with masonry, and a low wall erected in front.

This is the main design, but the taste or wealth of the individual constructing them will in many cases lead to considerable elaboration. We had not the good fortune to see the ceremony of burial during our visit, but we were told that the corpse was placed within the vault and left for a period of seven years. The bones are then collected and placed in urns. In the event of an individual or family being unable to afford the construction of one of

TOMB NEAR NAPHA.

these somewhat costly edifices, it appears that they join with others and share the expense. The poorest classes in Napha are interred in vaults cut in the sea cliffs. After burial it is the custom, as in China, to place cups of rice-spirit and various dishes by the side of the deceased. These are afterwards removed and eaten. A large collection of rock-hewn tombs were discovered in the middle of the island during the visit of Commodore Perry's expedition, evidently of great antiquity, and similar to those found in Egypt and Syria; and from their appearance and certain

tatements made by the natives, it was supposed that they belonged to a race which had preceded the present inhabitants of the island. The presence of a presumed emblem of Phallic worship in the vicinity was thought to confirm the fact, but these objects are so frequent in Japan that it is scarcely likely to have owed its existence to any other country. It is, however, by no means improbable that a prehistoric race did exist, if we judge from the analogy of other islands in these seas. It is curious that dug-out canoes should be in use at the present day in Liu-kiu, more especially as the materials necessary for their construction cannot be too plentiful. They are in this part of the world almost purely characteristic of a Malayan race, and would be more likely to be the last relics of a bygone people than later introductions to a much further advanced civilisation. Further exploration, however, may perhaps set the matter at rest, for the islands are practically *terræ incognitæ* even at the present day; and with the sole exception of the short excursion made by some members of the American expedition, the interior has as yet remained totally unvisited by Europeans.

During our rambles in the streets of Napha we several times noticed little stone edifices about four or five feet in height, resembling somewhat the shape of the large stone lanterns so common in Japan. These were full of little rolls of human hair,—the refuse combings from Liu-kiuan toilet-tables to all appearances. Our friend the Japanese doctor, whom I asked about them, did not know their use, but referred to a native. We were told that the hair was burnt in them on certain occasions by the priests. In China there are, I believe, small altars of a somewhat similar nature, in which all scraps of paper with writing on them are burnt, lest the name of any deity which may happen to be inscribed on them should be exposed to the dishonour of being trodden in the dirt. But what was the meaning of the burnt offerings of hair we could not discover.

To the curio-hunter the Liu-kiu Islands are a most unprofitable

ground. There are, practically, no shops, except for the sale o ordinary domestic articles and the absolute necessaries of lif The simple tastes of the people and the little intercourse wit other countries have not favoured the development of art in an form, and the many beautiful object of that kind that are found i Japan are, it seems, quite unknow in the islands, in spite of the many points of similarity in other way existing between the two nations Articles of common lacquer are made, but apparently for use rather than ornament. The so-called Liu-kiu lacquer—of extreme hardness and of a beautifully deep rich red colour, —sometimes, though rarely, to be picked up in Japan—we were unable to procure; and its production is said to be a lost art. No jewellery is worn, and the dresses, made for the most part of cotton or coarse grass-cloth, have no special interest. The stuffs forming the robes of those of higher rank are no doubt imported either from China or Japan. Almost the only souvenirs that we brought away with us were the peculiar silver hair-pins to which I have already alluded, and a musical instrument much like the *sanxien* of the Japanese—a species of banjo with three strings, chiefly remarkable for having the body covered with snake-skin.

LIU-KIU SANXIEN.

The inner harbour of Napha-kiang is as pretty a spot as one could well imagine, though from a seaman's point of view it is of little value, owing to the shallowness of the water. The greater part of it, indeed, is almost dry at low tide; and as we float lazily over the surface of the clear, still water, the endless beauties of coral-land lie revealed beneath us with the prodigality of form and colouring so characteristic of Nature in warmer climes; beauties to which no naturalist, however enthusiastic, no writer however gifted, has ever yet succeeded in doing justice. Beyond the junk anchorage a large and thickly-wooded island nearly blocks the farther recesses of the estuary, the foliage almost tropically luxuriant in its growth, yet not devoid of a certain quaintness peculiar to Japan,—that quaintness which, after all, is not much exaggerated by the stiff and perspective-disregarding picture of the country. What is it, I wonder, that has made the dress, the customs, nay, the very character of the Japanese, to assimilate so closely with the scenery of the land in which they live? In no other part of the world does one realise in the same way the fact that Nature can, if she so chooses, be most thoroughly artificial. The Japanese does all in his power to assist her. His leading characteristic is his love of the grotesque, and he places it unreservedly at her service, meeting her half way in producing what, if not by any means always the most beautiful, is certainly the oddest scenery in the whole world. His eye is for ever on the attainment of some little effect. He builds a quaint temple here, and erects a *Torii* in this or that unexpected spot. His notions on landscape gardening are, we know, peculiar, but he will even carry them into his forestry, and leave trees isolated on the sky-line of a hill from æsthetic rather than agricultural motives. Liu-kiu is Japan just as the Liu-kiuans are, to all intents and purposes, Japanese, but it is Japan with its grotesqueness toned down and its stiffness softened by six degrees of latitude. The inner recesses of the harbour which I have just described were, indeed, as much like a scene in the Malay Archipelago as anything else, and the little azure-blue

kingfisher[1] that flitted out from time to time ahead of us was by no means out of harmony with it, for the bird is cosmopolitan in its habits, and ranges from Africa to New Guinea, and from Japan to Timor. It is an Eastern representative of our own kingfisher and differs but little from it in plumage.

Passing the wooded islet at the harbour's entrance on our return, we came upon a curious scene. A party of half a dozen natives had gathered on the bare summit, and, facing towards the west, were occupied in some sort of festal or religious ceremonial. The sun was just setting, but the thick banks of cloud gathered above our heads portended a heavy storm. Bathed in a flood of lurid light, a solitary figure stood out against the evening sky, slowly waving his arms and dancing an adieu to day. Behind him sat the others with snake-skin guitars, chanting the weird, yet not unpleasing, discords of some Liu-kiuan song. Presently the music ceased, and another stepped forward to take the dancer's place. We floated slowly on, half unconsciously under the spell of the mournful music and the strangeness of the scene we were watching, until both had vanished in distance, and the fast-fading light warned us that we had better return. The piece was ended and the curtain had fallen, but among many scenes of travel vividly impressed upon my memory, I can recall few more so than the Liu-kiuan sunset dance in Napha-kiang harbour.

At our interview with the Vice-Governor upon our arrival, we had intimated to him, but in Asiatic exuberance of diction, that we hoped we might have the pleasure of his company at dinner on board the *Marchesa*. The answer, couched no doubt in equally florid verbiage, was to the effect that he had much pleasure in accepting. At the appointed time, accordingly, we sent the gig to convey our guests on board. They were three in number; the other two being our friend Uyeno, the Japanese doctor, and a secretary of the Governor. The conversation at first hung fire,

[1] *Alcedo bengalensis*, Gm.

ut the champagne being evidently very much approved of, it be-ame more lively as dinner went on, and before long everything was progressing merrily. English being our chief medium of com-munication, Uyeno acted as interpreter, and commenced every sentence with a fluent "I say." What followed, however, was by no means always so easy of comprehension. Their French, unfortu-nately, was not even of the "scole of Stratford atte bowe," so we were constrained at times to wander in the thorny paths of sign language, or to pour libation to fill up awkward pauses. Knives and forks were evidently almost unknown to our visitors, but they managed them with really praiseworthy dexterity after closely watching our movements for a time. Among the many dishes that must have been new to them was asparagus, and it evidently puzzled them to guess its origin. Uyeno's first essay at eating it was not very successful. Looking nonchalantly round, he dis-covered, and doubtless made a mental note of the fact, that this was apparently one of the few things that Englishmen eat with their fingers, and, with the habitual good breeding of his race, en-deavoured to follow his host's example. Seizing the vegetable by its head, he was at first somewhat dismayed to find it come off in his fingers, but, nothing daunted, he again returned to the charge, got a firm hold lower down, and commenced operations. There are, doubtless, many things in the cuisine of our country which are more interesting than the butt end of a shoot of tinned asparagus, and he was munching it with a comical air of mingled wonder and resignation, when one of us, whose gravity was least disturbed by the proceeding, took compassion upon him, and mildly suggested that, in general, there was more nutriment to be obtained at the soft end. His advice was at once adopted, but the sudden change of expression to one of complete satisfaction and approval was so irresistibly comic that we were one and all convulsed with sup-pressed laughter.

However much accustomed one may be to the odd incidents of travel, there is always something about a dinner with Japanese

which is trying in the extreme to the gravity of the most sober of Englishmen. I am not referring to the Anglicised individual with whom the ordinary globe-trotter is brought in contact, whose manners are as irreproachable as his Lincoln and Bennett, but to those whose dress is the *kimono*, and to whom English is an unknown tongue. Both are equally well-bred; if anything, the balance is in favour of the one who, as yet, is not overlaid with the veneer of Western civilisation. But there are customs and customs, and those of Europe are still very different from those of the kingdom of the Mikado, in spite of the advance of the vanguard of Swedish matches and Bass's Pale Ale. The unsophisticated Japanese delivers himself of no trite phrase to express his gratification at the hospitality he has received at your hands. No "many thanks for the charming evening *I have had*" (an expression which Mr. Max O'Rell informs us is *de rigueur* on all such occasions in English polite society) ever passes his lips. But he considers it incumbent on him physically to express his sense of the excellence of the comestibles placed before him. Is the champagne undeniable?—then let it be imbibed *with such* suckings and swizzlings as shall manifest *his* appreciation *of the vin*. Are the *quenelles de volaille à la matelote a success?*—his audible guzzlings and smackings of the lips should show that he has recognised the fact. Eating, as well as reading, maketh a full man, and repletion and content are synonymous terms in other languages besides Japanese. "*Estando contento no tiene mas que desear*," says Sancho Panza, and the fact is accordingly announced with the accompaniment of various natural phenomena to which it is unnecessary to allude, and which are, to say the least of it, somewhat subversive of European decorum.

Dinner over, we took an unfair advantage of our guests, and again approached the subject of our visit to the capital of the island. This time, thanks to the "good familiar creature, well used," things went smoothly, and it was arranged that we should start on the morrow if fine. We finished the evening over

tographs and maps; and after the display on the part of our itors of a knowledge of European history which put most of us shame, they bade us adieu with bows so low and oft repeated, at our stiffer English backs suffered considerably in our vain deavours to emulate them.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY.

CHAPTER III.

THE LIU-KIU ISLANDS (*continued*).

We start for Shiuri—Dress of the natives—Old palace of the Liu-kiu kings—Entrance-gate of Shiuri—Quaintness of the scenery—The fortress—Its three lines of fortifications—Ruins of the ancient palace—T'akina—Country-house and lotus pond—Paucity of bird-life—Return to Napha—Uyeno treats us to lemonade—A Liu-kiu crowd—We leave for Japan.

Our projected visit to Shiuri had apparently become generally known, for on landing early on the following morning we were confronted by an enormous crowd. Some thousands of people must have been present, for the pier and the streets leading to it were filled with a dense mass of human beings. Our friend Uyeno was waiting to receive us, attended by some other officials, and conducted us at once to the Vice-Governor's residence, where we were supplied with the inevitable tea and pipes until the chairs which had been ordered for us should be ready. We were shown some maps of the country, the outlines of which, judging from our own charts, appeared to be tolerably correct. Our inquiries as to the natural history of the island led to the production of two books upon the subject, written in Japanese and profusely illustrated. The flora may have been represented with a fair amount of success, but, on turning to the ornithology, we found plates of many species which it was difficult, if not impossible, to recognise. The artist had apparently given full play to his imagination, and the results, although pictorially striking, were not such as greatly to add to our knowledge of the Liu-kiuan fauna. Shortly afterwards we

informed that our chairs had arrived, and on going out we
d them the foreground of a picture which consisted for the
t part of human faces. The opportunity was too good to be
and we took a photograph of the scene before starting. Our
irs, or rather palanquins, were little, square, bamboo cages barely
e feet in height, with an opening at each side. The head
n was still further reduced by the pole being placed inside,
for a European, who cannot be "coiled down" with the facility
a Liu-kiuan, it was a matter of considerable difficulty to get in
thout leaving some portion of the body outside. These rather
stressing conveyances were most beautifully made of plaited
mboo slips, coloured red, black and yellow in various patterns,
d were furnished with little windows of wonderful neatness of
nstruction. Our bearers were of a size to match the palanquins,
t of sturdy build. They were clothed, or rather unclothed, in
panese fashion, most of them wearing a waist-cloth only, though
me were provided with a *kamori*, or whatever the equiva-
nt Liu-kiuan name may be,—a short upper garment made of
arse blue cotton. The dress of the islander of every rank
ppears to be nearly identical with that of Japan; almost
very one wearing the *kimono*—a full-sleeved, loose robe reaching
own to the feet, and cut V-shaped at the neck. It is folded
across in front so as to bring the opening beneath the arm, and is
confined by a girdle at the waist. To this girdle are attached the
pipe-case and tobacco-pouch, by means of large *netsukes* or buttons,
made of bone or ivory according to the wealth of the owner, and
often very prettily carved. Like a Japanese, a Liu-kiuan would
as soon think of going out without pipe and tobacco as an
Englishman without his boots. Former writers have described
the people as wearing the *hachi-maki*, a cap of peculiar shape,
with a flat top, but with the back and front formed of overlapping
layers of silk, much as if the head were encased in a "figure-of-
eight" bandage. These caps are of different colours, according to
the rank of the individual, but they appear to be hardly ever

worn now, and almost everyone goes bareheaded, the better c
carrying paper umbrellas to protect themselves from the
The labouring population, and those of inferior rank, are invari
barefoot, but their superiors wear the *chaussure* of the Japanes

LIU-KIUAN WITH HACHI-MACHI.

sandals and white stockings; the latter, if the expression be permissible, having a thumb for the great toe. The women dress like the men, but without the girdle, and the *kimono* is accordingly fastened in some way at the side.

Our bearers started off at a good pace, which rather taxed the efforts of the crowd to keep up with them. We soon got clear of the town, and shortly afterwards crossed one of the rivers flowing into the harbour. The bridges in Liu-kiu appear to be extremely well made. They are built of stone, and the balustrade is often a somewhat elaborate affair. In this case it was of large slabs, pierced with circular openings, between which were well-executed carvings

nals, fish, shells, and flowers. Whether the island is subject uliarly heavy rains or not, I do not know, but the piers were ely massive. The road exhibited like evidences of labour, for paved the whole distance from Napha to Shiuri with small of coralline limestone, which, though well enough for booted eans, must, one would have imagined, be more than trying barefooted natives. Our men, however, made nothing of it, rotted along at a pace that would have done credit to the best nock-bearers in Madeira. Our palanquins were carried in a ing direction along the broad road; the angle being changed time to time, so as to give each shoulder the same amount of . It was what in military parlance would have been termed ing to the front in echelon. By this means we were able to an unobstructed view of the country in front of us, and at the e time to carry on conversation with our neighbour if we felt ined. The ground rises but gradually at first, and the road s through fields of paddy, passing every now and then some sant's hut half hidden in clumps of bamboo and banana. As increased the altitude, millet and sweet potato seemed to take place of rice, and we noticed with what care the land was tivated, and how much time and labour must have been expended the elaborate system of terracing in vogue, so that the some- at uncertain supply of water should be used to the utmost lvantage. No hedges break what, but for the presence of small rupt hills and clumps of trees, would otherwise be a rather notonous landscape, but their place is supplied by the low gray de-walls of the terraces. We passed several parties of natives on e road, who looked at us with undisguised astonishment, but ere nevertheless not prevented thereby from bowing profoundly. me of them were driving down ponies laden with market produce, t in no case were they mounted, although it seems that the upper sses occasionally ride. These Liu-kinan ponies are sturdy little imals, rough-haired, and very diminutive. They have, doubtless, en imported from the mainland, and like the oxen, and indeed

the natives also, have proportioned themselves to the size
island.

The rapid step of our bearers—one hundred and eighty
per minute—carried us over the ground well, and in spite
broiling sun they seemed but little distressed. About an
after leaving Napha we approached a grove of pine-trees of un
size, and shortly afterwards halted beneath them, at the ga
what we were informed was one of the palaces of the Liu
kings. By the side of the road a stone pillar was standing, g
with the moss of many a bygone year. Its inscription—"Supe
and inferiors alike must here dismount and rest"—was
legible, written on the one side in ordinary square Chi
characters, and on the other in Japanese *katakana*. Remot
Liu-kiu is from the world's turmoil, and jealously as it has
guarded from the inquisitive eyes of foreigners, it forms no ex
tion to the inevitable rule that nothing is permanent but cha
The pillar has outlasted the use for which it was intended, for
last king of the Liu-kiuans has ended his reign, and the islands
form a part of the possessions of the Mikado. In 1879, sho
after they had come to terms with the Chinese with respect to
Formosan difficulty, the Japanese, whose power in the Liu-kius h
been gradually increasing, played the last and winning card of
game by inducing the king to visit Japan. He has never returne
and a Japanese governor now fills his place. How he passes his ti
history does not relate. Perhaps, like Cetchwayo, he is taken fro
time to time to see the Zoological Gardens. England, with th
marvellous wisdom that has of late years characterised her foreig
policy, restored the African monarch to his country. Japa
however, is still young and unsophisticated; and in spite of th
pension presented to him, and the deference paid to his wishes
the Mikado, I should be much surprised if the Liu-kiu king has n
seen the last of his native land.

Uyeno was at hand to show us the palace. It was built aft
the Japanese style, and was devoid of any particular interest b

arge reception-hall hung round with tablets, which our little
eyed with great complacency. They were of red lacquer, of
liarly deep, rich colour, emblazoned in gold with the names
Liu-kiu kings. They date back for about two hundred years,
hough history records the dates and reigns of the sovereigns of
slands for many centuries, this present custom appears to have
of recent adoption. No tablet commemorates the name of
who has closed the list for ever, and my inquiry as to its
re position was met by a smile of amusement.[1]

We went out and rested, watching the sturdy little beasts of
len who had brought us up so well. They smoked and chatted
roups, and were evidently discussing the distinguished foreigners
om it was their privilege to carry—a doubtful honour with a
perature near the nineties, and a hill of no ordinary steepness
fore them. It was pleasant enough, however, beneath the shade
the large pine-trees, which here formed a thick dark grove, re-
lling, with its aromatic smell and soft carpet of pine needles the
nery of more northern latitudes. This tree (*? Pinus massoniana*),
one of the most characteristic features of the landscape in Liu-
u, and is singularly cedar-like in appearance, with its wide-
reading horizontal branches. Below us, the waving fields of green
ddy fell away gradually to Napha-kiang, whose red-roofed houses
ere here and there visible among the dark foliage. The harbour
ay like a map beyond, calm under the sweltering heat; and away
westwards against the horizon rose the dim outlines of the Kerama
Islands. It was, in its quiet unobtrusive beauty, as charming a
view as one could wish to see.

From the little palace—the somewhat gloomy memorial of the
mutability of dynasties—the road leads up with a steep gradient to

[1] Li Ting-yuen, the Chinese envoy, sent in 1801 by the Emperor Kiaking to invest the king with the full sovereignty, recounts how they burnt silvered paper before these royal tablets. "Each one," he says, "is called *shio-shu*, deified lord, and is known by his own name (*i.e.* they have no posthumous temple name, as is the custom in China and Japan), except four, who were the most renowned, and are called by posthumous titles."

the capital. The scenery becomes more broken; more ton
in guide-book phraseology. The country is less highly culti

ENTRANCE GATE OF SHIURI.

and abrupt hills and small coppices take the place of the fields o
rice and beans. As we advanced, Shiuri became visible again; it
fortress, crowned with pines, standing out against the sky-line.

re and there we got glimpses of pretty valleys lying on either
e of our path, but, on approaching Shiuri, walls of heavy masonry
t out all view except that immediately in front of us. The gate
the city is more Chinese than Japanese in construction—a sort
two-storied porch, the gable ends of which are slightly upturned,
pported on four enormous wooden pillars, which are strengthened
piers after the fashion of the heavier *torii* in front of the Shinto
mples in Japan. The road leads hence straight up to the fort
nd palace on the summit of the hill, but our destination being the
uard-house, which here, as at Nápha, appears to serve also as a
ort of *kang-kuo* or rest-house, we diverged to the left. Ac-
companied by a crowd which threatened before long to reach the
dimensions of the one that witnessed our start, we passed through
a broad street, and disinterring our cramped limbs from the un-
comfortable palanquins, found ourselves before one of the quaintest
scenes imaginable.

Perhaps one of the greatest charms that Japan has for Europeans, at any rate on first acquaintance, is its unreality. As far as it affects the natural features of the country, I confess that I think the attraction fades with wonderful rapidity. I do not mean that there is no scenery of real beauty in Japan, for every one who has seen Nikko under the reddening maples, or explored the splendid gorges of the Tenrin-gawa, must allow that their beauty is hardly likely to be surpassed in any country. But the ordinary views of village life, which are to the new-comer so attractive from their very novelty, eventually become rather more than wearisome. The scene that lay before us had this Japanese peculiarity of quaintness and unreality to a marked degree, but was at the same time so beautiful that it was a great disappointment to me when I afterwards discovered that, owing to a faulty plate, my photograph of it had been a complete failure. The house was placed at the edge of a miniature lake, whose still, black waters were dotted with lotus plant. The rich green leaves and delicate pink flowers were mirrored on its surface with marvellous clearness, and on the

opposite bank it was hard to trace the limits of the water merged was the reflection in the reality. Here a hill rose steep a mass of dense vegetation, in which gnarled trunks, masses creeper, and feathery fronds of the tree-fern mingled in grace confusion. A gap in the foliage revealed the battlements of t citadel above, weather-worn and gray with age, and over t grotesquely-shaped stone bridge, whose open balustrading w richly carved, a crowd of people poured from the busy stre beyond to gaze their fill at the unaccustomed sight we afforde them.

After resting a while we were conducted to the fortress, whithe none of the crowd who had hitherto surrounded us were per mitted to follow. Our path skirted the lake, and crossing another picturesquely-carved stone bridge, passed upward through a shady grove of fine old trees to the fortress gate. On our way we came upon yet another lotus-pond, its surface almost hidden by the luxuriance of the plants. Its centre was occupied by a tiny temple or shrine, accessible by a lilliputian causeway, but from the rankness of the grass around the latter it did not appear to be much visited. The gate of the fortress was guarded by two fierce-looking stone lions and a diminutive Japanese of a most unwarlike aspect. On entering, we were able to realise to some extent the vast area that is included within the fortifications. It is extremely irregular in shape, and it is evident that no settled plan has been followed in the construction of the defences, which have been merely adapted to the character of the ground. Roughly speaking, however, there appear to be three distinct lines of fortifications, with ample space between them for the manœuvring of any number of troops. Besides these, there is a perfect labyrinth of smaller walls, among which it would have been no difficult matter to lose oneself; while the citadel within the inner line rises here and there into picturesque towers and battlements delightful to an artist's eye. The masonry is almost Cyclopean in character, and the blocks of stone are joined with wonderful accuracy. In this and

respects, the work appeared to us to be considerably superior
at of the Japanese. Some of the walls, for example, are up-
ds of sixty feet in height, and of enormous thickness. They
built in the form of a series of inverted arches, which, doubtless,
s them greatly in sustaining the tremendous pressure of the
h behind them. In the present age of large ordnance, these
derful defences would, of course, be reduced with the greatest
, but, in the old days of bow and arrow and hand-to-hand
ting, they might justly have been considered impregnable.

Passing the outer gate, the ground dips, and, amid large planta-
s of the stiff-looking *Cycas*, a number of what must at one
e have been storehouses are visible in a state of semi-ruin.
e view of the second line of fortifications from here is admirable,
d the path leading directly beneath the huge walls rendered
eir height the more impressive to us. As is the case in all the
lls we saw in Liu-kiu, these slope outwards at the base in a
ld curve, which is even more pronounced than in the feudal
-tles of Japan. At the foot of these walls, and close to the
cond gate, we came upon a spring of water gushing from a cleft
the solid rock, over which was carved in Chinese characters, "This
ater is very good;"—a naïve remark that a Chinese envoy on a
sit to the island had caused to be committed to posterity. Other
scriptions, equally original in character, had been cut on the
cks close by, all of which were the productions of the same
uthor, who, although perhaps not possessed of the divine *afflatus*,
ppears at any rate to have been much pleased with all he saw.

The gateway through the second lines is of very massive stonework,
s indeed is the case with all. It is spanned by an elliptical arch,
common feature in Liu-kiuan architecture. Within are the
arracks, or rather what serve as such at the present time, for we
liscovered that about two hundred Japanese soldiers were stationed
here. In the large courtyard surrounded by these buildings we
came across a small squad of them drilling. Uyeno was evidently
rather disturbed at this incident, being apparently desirous that

we should remain in ignorance of the fact that the castle
now occupied by Japanese troops. At the south end of
courtyard was the entrance to the ancient palace of the king
Liu-kiu—a holy of holies into which, as far as I can discover
European had previously penetrated. Captain Basil Hall,
Edward Belcher, and Captain Beechey were all unsuccessful
their attempts to see the capital; and though the pertina
with which Commodore Perry stuck to his claim of returning
state visit at the Castle of Shiuri was rewarded with success,
party were apparently not admitted beyond the ante-room of
palace. Mr. Brunton, who seems to have been the latest visito
the islands who has published any account of them,[1] found
inner gates closed; and the majority of the few remaining visit
have either never visited the capital, or if so, have not been p
mitted to enter the gates of the fortress. It was, therefore, with
little interest that we passed between the two huge stone drago
guarding the entrance, and found ourselves within the sacr
precincts.

A more dismal sight could hardly have been imagined. W
wandered through room after room, through corridors, receptio
halls, women's apartments, through the servant's quarters, throug
a perfect labyrinth of buildings, which were in a state of indescri
able dilapidation. The place could not have been inhabited fo
years. Every article of ornament had been removed; the painting
on the frieze—a favourite decoration with the Japanese and Liu-
kiuans—had been torn down, or were invisible from dust and age.
A few half-rotten mats lay here and there, but the floors were for
the most part bare, and full of holes, which, combined with the
rottenness of the planks, rendered our exploration a rather perilous
proceeding. In all directions the woodwork had been torn away
for firewood, and an occasional ray of light from above showed that
the roof was in no better condition than the rest of the building.

From these damp and dismal memorials of past Liu-kiuan

[1] "Transactions of the Asiatic Society of Japan," vol. iv. 1875-1876.

atness it was a relief to emerge on an open terrace on the mmit of one of the great walls, from which we got a splendid w of the island. Here we discovered a room which was in a erably good state of preservation, and enjoyed our tiffin. We re joined by the officer of the Japanese troops, who made his pearance laden with a large water-melon, which, with the stomary grovellings and abasements of his country, he deposited our feet. He spoke no practicable language, but in these lands perpetual thirst, the contents of tumblers accompanied by polite lutations will do wonders, and before long we were getting on wimmingly. I had a great desire to get at further particulars f the state of the island under its new rulers, and tried our new riend and Uyeno upon the subject, but in vain. The latter, who, f he chose, could be intelligent enough, suddenly became hopelessly tupid, and after a few reiterated questions and answers *à trouers*, gave up the task in despair.

From a turret commanding extensive views of the island, Uyeno nad pointed out a hill some two or three miles to the south-east as the site of another palace, and readily acceded to the desire we expressed to visit it. We accordingly started without loss of time, our palanquin-bearers carrying us at a rapid pace over broken country with atrociously bad roads. On our way we passed through a pretty village, the houses of which, pleasantly bowered in bamboo and banana, were thatched with straw in a peculiar fashion, the ridge of the roof being raised into a hump and covered with thickly-plaited bamboo. Here the women came out fearlessly to look at us, and

LIU-KIUAN GIRL, NAHA-KIANG.

we bargained for some of the curious horn and tortoise-shell p
with which they decorate their hair.

On arriving at our destination, which we learnt was cal
T'skina,[1] we found a charming house ready for us—the summer re
dence of the late king. We reposed on the snowy mats, and dra
the excellent tea provided for us. In front, a level lawn and
border of bright flowers gave a wonderfully home-like aspect to t
scene, the more so from its forming so marked a contrast to the r
of the garden. The large lotus-pond beyond, like the one we saw
Shiuri, had a little island-temple in the centre, connected by tw
quaint stone bridges with the land. The scene, with its backgrou
of dark pines, lent itself so admirably to photography, that I too
advantage of it, to the great mystification of some of the Liu-kiuan
Being, however, even more anxious to secure ornithological speci
mens than photographs, I started on a naturalist's ramble, in th
hope that the shady groves of the garden might prove a productiv
hunting-ground. Hitherto, wherever we had been, collecting ha
been rendered an impossibility by the crowds of people sur
rounding us. But here, in spite of the quiet and retirement of the
spot, I was not more fortunate. Hardly a bird was to be seen
and I returned empty-handed to the house. In the account o
Commodore Perry's expedition to the islands, the extreme paucity
of bird-life is noticed. From the Liu-kius not being truly oceanic
islands—geological and other evidences tending to show that they
were in all probability at some time or other connected with the
mainland—this would hardly be expected, but it was certainly
borne out by our own experience. The shortness of our visit,
however, and the crowds by which we were constantly surrounded,
prevented any real work in this direction, and the islands still
remain an almost virgin ground for any future explorer, both in
this as well as other branches of natural history.

Close to this summer residence of the king are the ruins of
another castle, which are said to cover a great extent of ground.

[1] Probably identical with Commodore Perry's Tima-guske; *guske* meaning castle.

LOTUS-LAKE AT T'SEING. Page 66.

had, however, no time to visit it, and before long were *en* for Napha-kiang by a cross-country path leading through a ession of paddy-fields. Entering the outskirts of the town, were invited to tea by Uyeno, and conducted to a pretty e house, the access to which was by a small gateway in the sive stone wall which appears invariably to line the streets Liu-kiu towns. We sat in an open room looking on to the iature Japanese garden, which was planted with the dwarfed and tesquely-shaped trees beloved by the subjects of the Mikado. eno's wife presently appeared; a pleasant little body who ceived us on her knees, bowing with the extravagant courtesy her nation until her forehead touched the ground. These borate compliments over, we discussed our tea; and Uyeno in s capacity of physician being doubtless anxious to exhibit his emical skill, proceeded to construct a compound of various salts, hich, on being mixed with water, was, we gathered, intended to present a species of lemonade. It fell to my lot to be the *corpus fe* on which the experiment was to be tried, and, with the prospect f a premature decease looming before me, I raised my glass, and dged my host with one desperate gulp. The result, if anything, xceeded my expectations. The beverage was *not* a success; ndeed, words would fail me were I to attempt to describe the nastiness of the concoction, so, considering I had offered a sufficient sacrifice on the altar of politeness, I thought myself justified n leaving the remainder. By dint of carelessly oversetting the glass, or of pouring the contents into the garden while admiring the scenery, the rest of us passed through the ordeal with more or less success; but bearing in mind the apparent potency of the draught, it was thought advisable to take leave of our hosts without delay.

The presence of our palanquins outside had revealed our whereabouts to the inhabitants of Napha, and the usual enormous crowd had collected to wait for our appearance. The excitement on our return was even greater than that we had caused at our departure,

and as we trotted along, fresh crowds joined us at every st
corner. Our sturdy little bearers put on their best pace, and
swept along regardless of anything that might lie in our p
Most of those we met were wise enough to run with the stre
or to flatten themselves against the wall until it had passed, w
the single exception of a grave-looking old gentleman with a b
in his arms,—of the stuff of which heroes are made. In him d
was swallowed up in no considerations of caution, and regardl
of the advancing multitude, he calmly awaited our approach, a
executed the profoundest of bows. He never finished it. In
instant the wave of humanity had overwhelmed him. Taken
flank by two solemn damsels whose eyes were steadily glued
the most ornamental of our party, he was capsized in a momen
and the unhappy baby flew out of his arms with an impet
which must have caused considerable discomfort in its chec
Both were, however, almost instantly rescued, or it might hav
gone hard with them; and from my last glimpse at the o
gentleman's unmoved face, it appeared as if he regarded the affai
as one of the common incidents of life. Placidity of disposition
and imperturbable good-humour seem to be the normal condition
of this pleasant little people, and I do not think I saw a cross loo
or heard an angry exclamation during the whole of our visit.

We reached the pier without further accident, and were a
length able to get free from the good-natured, though somewhat
tiring multitudes who surrounded us. Little Uyeno and the
secretary waved their fans in adieu; the bystanders executed
such obeisances as their cramped position and the insecurity of
their footing at the edge of the jetty permitted; and in a few
minutes we were once more on board, somewhat fatigued with
our exertions, but pleased with the success of an expedition
which had proved even more amusing and interesting than we
had anticipated.

Next morning we made preparations for our departure. Our
wild-looking American friend, through whose agency we had

d a few tons of charcoal, came off to pay us a visit. We after-
discovered that he was somewhat better acquainted with the
f the market than we were. Shortly afterwards Uyeno made
pearance, bringing a few Liu-kiu
ties which he had kindly under-
to procure for us—snake-skin
ens, hair-pins, lacquer plates with
work bamboo edges, and such like.
d red lacquer was to be obtained,
more unfortunately still, he had
unable to get me a copy of the
on the natural history of the
ds which I had seen at the
rnor's house. As a parting present
himself he had brought us some
mens of a large and beautifully
escent shell (*Avicula margaritacea*),
ch, he told us, was very rare on the
nds, and greatly valued for its beauty. Our healths having
n then duly drunk, we returned with our visitors, and paid a
well visit to the Vice-Governor, with whom a mutual exchange
compliments and presents took place. Among the latter we
ived some curious maps of the Liu-kiu and Meiaco archipelagos,
a Japanese phrase-book in Liu-kiuan.

COCONUT WATER-JAR.

Late in the afternoon we weighed anchor, and proceeded round
southern end of the island. We kept off the land with the
ention of examining the supposed position of the Heber reef, but
uld see no signs of it. A little later and Okinawa-sima was lost
view, and the south-west breeze was wafting us rapidly towards
pan, laden with the mingled memories of ruined castles and the
avings of innumerable fans.

CHAPTER IV.

KAMSCHATKA.

We leave Japan for Kamschatka—Constant fogs—Avatcha Bay—Avatch
Koriatska, and Kozelska volcanoes—Beauty of the scenery—Petropaul
Harbour—The village and its inhabitants—Dr. Dybowski—Monume
Bering, Clerke, and De la Perouse—Defeat of the Allied Forces in 1854—
of the English and French—Sledge dogs—We make arrangements for our jo
through the country—Village and hot springs of Khehi.

A FAVOURING wind and current bore us rapidly from the Liu
Islands towards the Land of the Mikado. Past the Linschot
past the wild and rugged coast of the southern part of Nipon;
Simoda Harbour, where in the terrible earthquake of 1854
Russian frigate *Diana* was lost; and lo! almost before we h
finished home letters, and written diaries up to date, the sh
rattle of the cable sends a convulsive shudder through our li
ship, and we are at anchor in Yokohama Bay.

Japan! What'n flood of recollections pour into the mind at
mere mention of the word! A *pot-pourri* of quaint castles and s
quainter streets, of jinrickshas and gloomy groves of cryptomeri
of stately *Torii* and squalid huts, of "curios," lotus ponds, a
scarlet maple. Once more one is drinking tea round the *hibac*
or carrying on a flirtation under linguistic difficulties with so
bright-eyed, tittering *moosmi*: once more one is fighting legio
of fleas and an equal number of odours in some noisy tea-hou
And above all, ever present to our mental vision, and pre-eminent
the *cosmi Gimpsons*, Fuji, the sacred mountain, rears his snow

nged amid the waves of innovation that lap his

s as yet "griffins" were anxious to make acquaintance
try, and those of us who were no longer such were
renew it. Few countries in the world are so taking
s Japan. The absolute novelty of almost every
g object, and of every custom, is so striking that it cannot
use the interest of even the most *blasé* of travellers. Most
have many points in common with neighbouring or other
If you know your Constantinople, even Persia will scarcely
nge; if you are at home in India, you are not absolutely
iar with many characteristics of Malaysia and its inhabit-
But Japan is Japan, and not the most intimate acquaintance
ny other part of the globe will enable you to form any
e realisation of it.

will not weary my readers by adding to the already super-
ant list of sketches of Japanese life and travel. If such a
were possible, the country has been described *ad nauseam*
ly, and holds but few secrets for us to disinter. In the pages
r Edward Reed's book those who are unappalled by names of
st impossible pronunciation may learn considerably more of
history of the Land of the Rising Sun than they are likely ever
remember, and in Mitford's "Tales of Old Japan" the reader is
ught back to a now bygone era with life-like vividness. But for
es of everyday life, for photographs of the character and
racteristics of this wonderful little people, few writers have
alled Miss Bird; and her book must always remain as a faithful
ure both for the amusement and instruction of future travellers.[1]

[1] I cannot let this opportunity pass of recording the many obligations we owed, the numberless kindnesses we received at the hands of the late Sir Harry Parkes, generous hospitality, the help he was always ready to afford us, the keen interest he took in our cruise to Kamschatka—all these are deeply impressed on our ories. "His death is a national misfortune," ran the telegram which announced But all those who knew him, however slightly, must have felt his loss as that of rsonal friend.

On the afternoon of August 4th, we weighed and h
of Hakodadi in Yezo, northward-bound for Kamse
dipped our farewells to old friends of H.M.S. *Champio*
and steamed out against a fresh easterly breeze. As
the wind increased, and the weather became so
resolved on running in under the lee of Cape Siwokubi
for the night. Next morning it was clear, though sti
strong from E.S.E.; but as we were anxious to lose no tim
the ship under fore and aft canvas, and beat under steam
past Cape Yerimo, the southern point of Yezo, into the o
The Kurosiwo or Japanese current—the Pacific homologue
Gulf Stream—widening as it passes the eastern coast of
runs northward as far as Kamschatka, and it is to its warm
the comparative freedom from ice of that coast is supposed to
Between it and the Kurile Islands is a narrow counter-c
of cold water, running to the S.W. With the intenti
avoiding the latter, and obtaining what advantages we could
the Kurosiwo, we resolved on shaping our course so as to ke
a uniform distance of about a hundred and fifty miles to the
ward of the Kuriles, where the current is supposed to be strong
The result, however, was a failure. For the first two days
experienced a north-easterly set, but we had no sooner got fa
out into the presumed middle of the Kurosiwo than we encounte
a southerly current. At the same time we entered the region
fog, which, during the summer, is an almost constant phenomen
of the northern part of the North Pacific. This fog apparen
formed a stratum of no great depth, for, although thick enough
round us, it was often sufficiently clear overhead to enable us to
a glimpse of the sky, and although morning sights were impossi
we were always able to get a meridian or ex-meridian observat
for our latitude.

Navigation in these lonely and misty seas presents but f
points of interest even to the sailor, and it was accordingly with
little pleasure that, on the morning of the 13th of August,

MAP OF
KAMSCHATKA.
Scale of Nautical Miles

emerged from the fog much as a train runs out of a tunnel, and found that Kamschatka was in sight. The sharp peak of the Vilutchinska volcano enabled us to make out our position, and we steered north for Avatcha Bay. It was a magnificent morning, and as the yacht rolled heavily over a dark blue sea, on whose surface the waves broke in patches of snowy whiteness, now plunging her bows deep into the water with all the sense of pure physical enjoyment of a living creature, now shaking herself free and pouring the seas in bright streams from her scuppers, she formed a picture which might have aroused the admiration of even the most apathetic of landsmen, and one which was provided with a fitting background. Rarely have I seen a wilder-looking coast than that of south-eastern Kamschatka. The brilliant sunshine which poured upon rock and headland redeemed it from gloom, but the wildness and desolation of the scene was indescribable. Precipitous cliffs, at the foot of which none but a bird could land; deep valleys running down to the sea at whose mouths still lay the accumulated masses of last winter's snows; pinnacle rocks like rows of iron teeth shown to warn off any one rash enough to contemplate a landing,—this was what met our gaze as we anxiously scanned the coast with our glasses. Beyond, the land rose in abrupt humps and irregular masses, and appeared to be clothed with a uniform growth of low, but dense underwood, above which the distant cones of snow stood out clear and hard against the sky. It was an impracticable-looking country enough, but we had visited it with the firm intention of going through it, and experience in other lands having taught us how often difficulties disappear upon a closer acquaintance, we did not allow ourselves to feel discouraged. An hour or two later we arrived at the narrow entrance of Avatcha Bay, and shaped our course over a smooth sea for the little harbour of Petropaulovsky.

Avatcha Bay is one of the finest harbours in the world, if not actually the finest. Rio and Sydney have no mean claims for this position of honour, but those of us who had seen both were

unanimous in awarding the palm to their Kamschatkan rival. A nearly circular basin of some nine miles in diameter, and with a narrow entrance opening to the S.S.E., it is roomy enough to accommodate the navies of the world. It is entirely free from dangers, has an even depth of ten or twelve fathoms, and owing to its affording excellent holding ground and being well protected from all winds, it is perfectly safe in all weathers. But the ordinary traveller will be struck not so much with its nautical excellencies, as with the superb scenery with which it is surrounded. To the south rises the Vilutchinska volcano, now quiescent, a graceful cone of about 7000 feet; and a little farther eastwards a huge flat-topped mass, exceeding it in height by a thousand feet or more, obtrudes itself as a rare exception to the rule of cone-shaped mountains which seems to obtain throughout the country. It is nameless in the charts, for we are in the land of volcanoes, and it is only 8000 feet in height! On either hand on entering are the two secondary harbours Rakova and Tureinska—the latter nearly five miles in length—and within them again are others on a still smaller scale. Nature here at least has treated the mariner right royally. The iron-bound coast without may be as bad a lee shore as any skipper need wish to see, and the Pacific Ocean may too often belie its name, but here he can rest quietly, and sleep *sur les deux oreilles* until such time as he weighs anchor for the homeward voyage.

But if the southern part of the bay is fine, it is difficult to find words to describe the beauty of its upper portion. We look north, and the scenery on which we have just turned our backs is forgotten, for there, shoulder to shoulder, their vast fields of snow glittering in the sun, stand a trio of volcanoes such as one rarely sees. From the summit of Avatchinska, the centre peak, a delicate streamer of white vapour floats out horizontally, sharply defined against the blue of the clear northern sky. So closely do these mountains seem to hedge in the bay, that it is hard to realise the fact that they are twenty miles distant. But in Kamschatka the

AVATCHA BAY AND PETROPAULOVSKY HARBOUR.

scenery is on a large scale, and a reference to the chart explains the matter in five figures.[1]

Mr. Frederick Whymper, in his "Travel and Adventure in the Territory of Alaska," has given an excellent illustration of this group of mountains. Koriatska, to the north and west, stands alone. Avatchinska and Kozelska are somewhat less lofty, the former being close upon nine thousand feet; while the latter is, according to different observers, either 5328 or 9054 feet[2] in height. Such a discrepancy can only be accounted for by the supposition that Avatchinska should be credited with the latter figures. During Mr. Whymper's visit in 1865, Koriatska alone emitted smoke, the others being apparently extinct; but in the month of June, ten years previously, Mr. Tronson found Kozelska in action, sending forth dense volumes of smoke, and covering the surface of the water with ashes.[3] Since then there do not appear to have been any eruptions, and in spite of the white pennant floating at the peak, the grand old mountain looks calm and peaceful enough, guarding the lonely stretches of forest and tûndra at its base.

It is only with an effort that one withdraws one's gaze from the exquisite beauty of mountains such as these. What is it that influences us so deeply in the sight of those eternal snows? In what lies that wondrous charm that we experience only in the regions of the north? After many years of travel I think that there is one scene which has, perhaps, remained more vividly stamped upon my memory than any other—a placid river in northern Lapland, down whose stream I floated, drinking in the perfect beauties of the changing autumn. Amid all the mass of scarlet and gold that hung above the mirror-like surface of the water not a single leaf was stirring,—not a sound was to be heard.

[1] The height of Koriatska is 11,534 feet.

[2] Tronson,—"Voyage of the *Barracouta*," p. 109.

[3] From the fact that Mr. Tronson appeared to consider Avatchinska and Koriatska as one and the same mountain, and gave an erroneous height for Kozelska, it seems far more probable that it was the first-named volcano that was really in eruption at the time of his visit.

Before us lay the peaks of dazzling snow, and it seemed as though all Nature were hushed and worshipping at that throne of spotless purity.

Rest and purity then—the unattainable, in other words—in these lie the charm. The fairest tropic scene holds no deeper meanings such as these. Beauty of form there doubtless is, a far greater beauty perhaps than that of northern climes, but, after all, it is but soulless. The teeming life of a tropic forest, the marvellous wealth of vegetation, the reckless sacrifice of the weakest, produce

WHISKERED PUFFIN. (*Lunda cirrhata.*)

upon the mind the same effect as do the streets of a crowded city. No grandeur of "calm decay," no pathos of the changing seasons is here. It is a fierce struggle for existence, fatal to any except the most purely material thought.

The shores of Avatcha Bay extend to the traveller a more smiling welcome than the iron-bound coast outside. Here, the lower hills slope gently down to beaches dotted with driftwood, or, covered with birch and heather, steeply overhang the sea. Behind they are backed by higher ranges clothed with undergrowth, and rising to the height of fifteen hundred feet or more. To the north-west only is this basin-like appearance broken, where the small

Paratunka and Avatcha rivers have formed a delta with innumerable mouths. Low ground also intervenes between the three great volcanoes and the bay, but the height of the mountains annihilates the distance. Hardly a sign of human habitation is to be seen, but the calm surface of the water is broken by quantities of water-fowl, whose nesting-places are the steep rocks at the entrance of the bay. Most noticeable among them are the Whiskered Puffins (*Lunda cirrhata*), and the still quainter-looking Tufted Auks. The little

TUFTED AUK. (*Simorhynchus cristatellus.*)

village of Petropaulovsky is invisible, hidden behind a steep promontory forming the western boundary of its harbour. What an admirable harbour it is from a sailor's point of view can best be seen by a glance at the engraving. From the end of this promontory a shoal extends nearly to the other shore, but leaves a channel deep enough for ships of the largest draught. Within this again a sand-spit,—so straight, so narrow, and so regular in form, that it is hard to believe that it does not owe its existence to the hand of man,—runs out from the opposite shore to within a stone's throw of the promontory. We steam in steadily towards the land; to an

onlooker it would seem as if we were deliberately beaching the vessel. "Starboard! hard a-starboard!" comes the order. "'Ard a-starboard," echoes the man at the wheel. "Hard a-port!" "'Ard a-port it is," he sings out, clawing the wheel towards him with foot and hand. "Well! I'm blessed if ever I see the likes of this 'ere place," I hear Jack mutter as we are safely berthed, and, on the whole, I am very much inclined to agree with him.

Our arrival created no little excitement among the inhabitants of this remote little spot: it might possibly have created even more had we not entered the harbour almost at the moment of departure of the yearly fur steamer for Japan *viâ* Okhotsk. All Petropaulovsky had assembled to wave their adieux, and not a few of them appeared torn by the conflicting desires of seeing the last of their friends and of discovering the business of the new-comers. The steamer was hardly under way before we were receiving our visitors. They were but limited in number. Petropaulovsky, in spite of the imposing letters to which it is treated in the maps, is, after all, little more than a hamlet, and is probably stationary, if not actually decreasing, with regard to population. Clerke, in 1779, found the settlement consisting of thirty huts built upon the sand-spit to which I have already alluded, and consisting mostly of yourts or balagans.[1] Captain Cochrane, who in 1821 performed the unprecedented feat of walking across Siberia from Russia to Kamschatka, describes it as having increased to fifty-seven buildings, some of which were on the mainland; and at the period of the Crimean war it appears to have been as large as it is at the present time, if not actually larger. The town had been transferred to the head of the little harbour, where it now stands, and boasted of no less than two hundred edifices of all kinds. But in Kamschatka, as in other northern countries, winter storehouses, fish-drying sheds, and other out-buildings are so numerous, that the actual dwelling-

[1] A yeart is a semi-subterranean winter dwelling, roofed with turf. The balagans are only used in summer: they are rough wooden buildings erected on piles. The upper part serves as the dwelling-house, while, beneath, the salmon are hung up in rows to dry.

houses may be reckoned at about one-third of that number. Kittlitz, in 1829, found the settlement to number about two hundred inhabitants, and at the time of our visit we were informed that there were over three hundred; a number that I should myself be inclined to think overstated.

Standing on the now deserted sand-spit,—the natural breakwater of the harbour,—the view of the little town and its surround-

PETROPAULOVSKY HARBOUR.

ings is strikingly picturesque. To the left is the wooded promontory, the scene of the unfortunate disaster which occurred to the forces of the Allied Fleet in 1854. On the right a hill of some fifteen hundred feet dominates the town, whose log huts are clustered around the shores of the little bay. Here and there a white-painted house of greater pretension strikes the eye, and a stunted grove of trees shelters the church, and the graveyard studded with Russian crosses. Behind the town, artistically filling in the gap

between the hills, rises the snowy cone of Koriatska; and the store-house of the Alaska Commercial Company, painted the dull Indian red that is so favourite a shade throughout Sweden, forms a pleasing patch of colour in the foreground. It did not take us long to make acquaintance with Petropaulovsky, in spite of its imposing name. The inhabitants, we found, called it Petropaulsk, and, in short, showed every disposition to make things easy for their visitors. Salmon and bilberries were sent off to us, and, on our remarking upon the presence of cows, a supply of cream and butter was not long in following. Society here is limited, the Europeans being but eight or ten in number. Mr. Lugobil, the local head of the Alaska Commercial Company, resides here, and superintends the shipping of the sealskins from Bering and Copper Islands; as does Captain Hunter, the cheery agent of Phillippeus and Company, another firm of fur-traders. Of stores (the American term is in use here) there are but two. One of them was owned by a kindly old Swede, who also acted in the capacity of Mayor. He had not visited his native land for thirty years, and it was evidently a source of the keenest pleasure to him to talk of it to one of us who knew it, and loved it almost as much as he did himself. The town is now no longer a military post, and the barracks and fortifications, razed to the ground by the English in 1855, have never been rebuilt. The entire authority is vested in the Ispravnik, whom, in spite of the exigencies of his profession, we did not find averse to the seductions of trade. A Russo-American Jew, better known as the King of Kamschatka, of whom the Russian Government was extremely anxious to get rid, completed, with Dr. Dybowski, the list of Europeans of the sterner sex. The ladies were only four in number.

With Dr. Dybowski, who has acquired a European fame as a naturalist, it was a pleasure to make acquaintance. His life had been an eventful one. Imprisoned in Siberia for some time for taking part in the Polish insurrection, he had eventually been pardoned and made government doctor of Kamschatka, in which capacity he

had visited the greater part of the peninsula. Owing to the difficulties of communication excepting in the winter season, he had abundant time on his hands, which he had devoted with indefatigable ardour to his favourite pursuits. Geology, surveying, palæontology, photography and ornithology,—each and all had occupied his leisure hours, with results which were evidenced by the richness of his collections. None of the other Europeans knew anything of the country outside Petropaulovsky, and to him alone we were indebted for what information we could get about our projected route, as well as for many useful hints on Kamschatkan travel.

Our intention was, if the plan were feasible, to travel northwards from Avatcha Bay until we struck the head waters of the Great Kamschatka River, where we were to procure canoes if possible, or if not to construct rafts, and by this means float down the stream to the sea. Meanwhile, the yacht was to remain in Petropaulovsky harbour for a month or six weeks, and then proceed to the mouth of the river to await our arrival. We found that Dr. Dybowski, in spite of his extensive travels in the peninsula, had not himself performed this journey, neither was he aware of any other person who had attempted it. Communication often takes place with Nischni Kamschatka—an *ostrog* near the mouth of the river—in the winter, but the sledges do not, as in Lapland, travel on the river; and though occasionally a few of the lonely settlements upon its banks are passed, the track leads for the most part by short cuts overland, and we had no means of judging the distances or the length of time necessary for our journey. From Dr. Dybowski, however, we were able to obtain all the information that was to be got upon the subject; and to learn that, whatever other difficulties we might have to encounter, that of an insufficient supply of food was certainly not one. His accounts of the really marvellous abundance of fish, which at the time seemed almost incredible, we were destined later to find, if anything, understated. Whether the almost exclusive fish diet of the inhabitants of the

country has any connection or not with the leprosy prevalent among them, it is difficult to say. Our informant described it as being a common disease, and he must have had considerable opportunities of judging, but it is remarkable that during our journey through the country we met with but one solitary case. Scurvy was, we were told, uncommon, owing no doubt to the abundance of the wild garlic and the *sarana*—a liliaceous plant whose bulb is stored for the winter, and supplies the place of the potato. This latter vegetable has, however, become much more extensively cultivated of late years.

It was a matter of great regret to us that our acquaintance with Dr. Dybowski should of necessity have been so limited. He was on the eve of a long journey in search of fossils to the Kuril Lake, which lies in an almost unknown region at the southern extremity of the peninsula. It was by such pursuits alone that he was able to mitigate the loneliness of what was, in reality, an exile. During the winter he travelled over the country to such isolated spots of it as are inhabited, and saw his patients. These he was supposed to supply with such medicine as would suffice for their cure, or last them, should they be incurables, until the time of his visit in the following year! It is not every parish doctor whose district is spread over the extent of one hundred thousand square miles!

During the week that was necessary for the completion of our preparations we had abundant time for the exploration of Petropaulovsky and its surroundings. The numerous harbours and lovely scenery of Avatcha Bay would take a month to become thoroughly acquainted with, and it would be hard to imagine a more charming place for the naturalist and sportsman. Possibly, when the salmon rivers of Norway have reached a prohibitory price, and the game of India and South Africa has disappeared, some adventurous individual will recommend Kamschatka as a new field for sportsmen. At present, it must be confessed, it is not very easy to get there. Every year the port is visited by a

Russian cruiser, and, if her officers should chance to be as excellent companions as I have on every occasion found those with whom I have been brought into contact, a traveller might possibly get the offer of a passage, which, if he has command of the French language, a strong head, and an unlimited capacity for sweet champagne, should be enjoyable enough. A steamer, or steamers, belonging to the Alaska Commercial Company make two voyages annually to the port, to ship the furs awaiting them there and at Bering Island. They start from Yokohama, and it would no doubt be possible to obtain a passage. On leaving Kamschatka for the second time, however, these ships do not return south, but proceed direct to San Francisco.

The weather upon our arrival was pleasant and invigorating to a degree; the days absolutely hot, with a brilliant sun and wonderfully clear atmosphere, and the nights cold, but bright. But for the mosquitoes nothing could have been more enjoyable. These pests, which render life in a northern climate almost unbearable during the summer, were not very numerous in Petropaulovsky itself, but in some parts of Avatcha Bay we found them abundant, while in others not one was to be seen. As every one knows, the presence of these insects is almost always dependent on the existence of marsh, low-lying ground, or clumps of birches and other trees in the neighbourhood; but here, oddly enough, we found no such reasons to account for their erratic distribution. The little gardens of the settlement were aglow with bright flowers, though choked with weeds and coarse grass. But little cultivation was to be seen; a few patches of potatoes, cabbages, and such like garden produce, surround the cottages here and there, but there are no cereals. Rye ripens in some parts of the valley of the Kamschatka River, and would probably do so here, according to Dr. Dybowski, but its growth is not attempted. To the Kamschatkan the harvest of the river and the sea is an affair of such supreme importance, and demands so much of his time, that he has but little leisure for agriculture even if he had the inclination.

There are no roads even in the little settlement itself, and, from the irregular distribution of the houses, and the equally irregular ground on which they are built, the traveller has to pick his way from one to another as best he can. It is needless to state that wheeled vehicles are, in consequence, unknown. The church, an uninteresting-looking building, painted white, is practically the only public edifice.[1] Near it, and at the bottom of Mr. Lugobil's garden, stands the little monument erected to the memory of Bering. It is an iron column of no great size or taste, which was sent hither years ago from St. Petersburg, and, half buried in the lush grass which at this season of the year grows so freely in Kamschatka, it looked melancholy enough. It is a cenotaph, for the bones of the celebrated navigator rest far away upon the island that bears his name. A monument to Captain Clerke, the successor of Captain Cook, is, I believe not far from it, but we did not see it. The town is, indeed, somewhat rich in these objects of melancholy interest, for in a gap in the western promontory, once the site of an old battery, the dilapidated remains of a memorial column to De la Perouse is still to be seen; while on the sand-spit at the entrance of the harbour, an erection less pleasing to the eye of an Englishman is conspicuous, commemorating the success of the Russians against the forces of the Allied Fleet in 1854.

I must confess that, previous to our visit to Kamschatka, I had been in entire ignorance of the affair that resulted in such disaster to our forces. But little known or commented on at the time, it has probably long ago passed out of the memory of most of those of the past generation; while, owing to the success with which the matter was hushed up, it had but little chance of becoming known to the present. In the action of the 24th August, 1854, we suffered a defeat as humiliating as it was ridiculous, and one for which, from the circumstance of our attack having been made on a

[1] At the time of Lesseps's visit, in 1787, there was no church in the settlement, but he alludes to the former existence of one, and mentions that its situation was known "by means of a sort of tomb which formed a part of it."

town so insignificant, we could hope to gain no sympathy at the hands of other nations. The whole story was related to us by Captain Hunter, who was himself an eye-witness of the occurrence, but the details have been so clearly and concisely given by Mr. Whymper in his "Travel and Adventure in the Territory of Alaska," that I make no apology for quoting his account.

"In the autumn of 1854 (28th August[1]) six vessels of war—French and English, comprising the *President*, *Virago*, *Pique*, *La Forte*, *l'Eurydice*, and *Obligado*—arrived off Avatcha Bay: a gun, placed near the lighthouse at the entrance, was fired by the Russians, and gave the inhabitants of Petropaulovsky notice to be on the alert. Admiral Price immediately reconnoitred the harbour and town, and placed the *Virago* in position at a range of two thousand yards.

"The Russians were by no means unprepared. Two of their vessels, the *Aurora* and *Dwina*, defended the harbour, and a chain crossing the narrow entrance shut it in. There were seven batteries and earthworks, mounting about fifty guns of fair calibre.

"The *Virago* commenced the action with a well-directed fire, and several of the batteries were either temporarily or entirely disabled. The one farthest from the town on the western side was taken by a body of marines landed for the purpose. The guns were spiked. There were three batteries outside and on the spit, two at the termination of the promontory on the western side of the harbour, and one in a gorge of the same which opens on Avatcha Bay. It is in this little valley that the monument to La Perouse stands.

"The town was well defended both by nature and art. The hills shut it in so completely that it was apparently only vulnerable at the rear. There a small valley opened out into a flat strip of land immediately bordering the bay, and, although there was a battery on it, it seemed an excellent spot to land troops.

"Our vessels having taken up a new position, and silenced the batteries commanding it, seven hundred marines and sailors were put ashore. Half of them were English, half French; a large number of officers accompanied them, while they had for guides two Americans, said to know the ground. They appear to have expected a very easy victory, and hurried in a detached and straggling style in the direction of the town, instead of proceeding in compact form, in military order. A number of bushes and

[1] This date does not agree with that on the monument, where it is given as the 29th-24th August.

small trees existed, and still exist, on the hill-sides surrounding this spot; and behind them were posted Cossack sharpshooters, who fired into our men, and either from skill or accident, picked off nearly every officer. The men, not seeing their enemy, and having lost their leaders, became panic-struck, and fell back in disorder. A retreat was sounded, but the men struggling in the bushes and underbrush (and in truth, most of them, being sailors, were out of their element on land), became much scattered, and it was generally believed that many were killed by the random shots of their companions. A number fled up a hill at the rear of the town. Their foes pursued and pressed upon them, and many were killed by falling over the steep cliff in which the hill terminates.

"The inhabitants—astonished at their own prowess, and knowing that they could not hold the town against a more vigorous attack—were preparing to vacate it, when the fleet weighed anchor and set sail, and no more was seen of them that year."

The actual number that fell in this engagement is uncertain. In the "Nautical Magazine" for October, 1855, it is stated that we lost 107 killed and wounded, but we were told that the total number of French and English who fell was 170 men. Under the hill at the back of the town still stands a rude enclosure, whose dilapidated white palings surround three crosses, beneath which Russians, French, and English lie side by side. Others were buried where they fell. The bodies of some of the officers were borne from the field by the Allied Forces, and interred at the entrance of the Tareinska Harbour on the opposite side of Avatcha Bay. They lie on a small promontory on the land side, opposite a little island. We had hoped to visit the spot, but the limited time we had at our disposal, and the preparations necessary for our expedition through the interior, prevented us. We were told that, in the spring of the preceding year, a party, of which our informant formed one, had searched in vain for the graves, in spite of that of the English admiral having been marked by a cross. The death of this officer is by the inhabitants of Petropaulovsky attributed indirectly to the result of the engagement. As a matter of fact, it occurred, I believe, upon the preceding day; the troops during the affair being under the command of the French admiral.

In the opinion of those who had been in Petropaulovsky at the time, the disaster was chiefly due to the division of the forces on landing,—one body getting ahead of, and being fired into by the other. The thickness of the bush prevented a recognition of this error, and the attacking party imagined themselves taken in rear. The Cossacks took advantage of the mistake, and before long the Allies were in a state of confusion which the nature of the ground rendered hopeless. More met their death by being driven over the precipice, it was said, than actually fell before the rifles of the Cossacks.

The victors were left in peace for the time being, but, in the spring of the following year, the Allied Squadron once more made its appearance. The *President*, *Pique*, *Dido*, *Brisk*, *Encounter*, and *Barracouta*, together with the French frigate *Alceste*, assembled off Kamschatka, and entered Avatcha Bay on the 31st May, 1855. They found the town completely deserted by the Russians. Three foreign residents alone remained, and from them they learned that the settlement had been evacuated by order of the Emperor upon the breaking up of the ice. Even the natives had fled. On the 7th June the batteries and magazines, which had been strengthened and increased in number since the engagement in the preceding year, were blown up, and two days later all the Government buildings were burnt to the ground. The latter proceeding was, in all probability, the wanton act of some English blue-jackets, and was done without the knowledge of our authorities. It was an unfortunate occurrence, the explanation of which could hardly be expected to be believed by the Russians, and the affair still rankles in the breast of the inhabitants of the little settlement.

A few days later the Squadron left, and the inhabitants returned to their homes. Poor little Petropaulovsky has to rest content on her honours of 1854, for the town has never been refortified, and is now no longer a military post.

One cannot be long in Kamschatka without making the acquaintance of that very necessary animal, the sledge-dog. When

the fact is taken into consideration, that for every inhabitant of the peninsula there are at least five or six of these animals, it will be understood that the effect produced is hardly inferior to that exhibited by the streets of Constantinople. "A dog's life" is a phrase which is here most appropriately realised. No comfortable homes are provided for them to enable them to withstand the rigours of the arctic climate, and the poor beast, except when actually at work, has in most cases to "find himself." Long experience, and the instinct transmitted to him by his ancestors, has, however, given him all the resources of an old campaigner. Stumbling at night about the uncertain paths of the settlements, the traveller is not unfrequently precipitated into the huge rabbit-burrows which the animal constructs to avoid the cutting winds. His coat, nearly as thick as that of a bear, is composed of fur rather than hair. As for his manners, they are, like those of the midshipman's savage, almost non-existent. He has thoroughly grasped the fact that self-preservation is the first law of Nature, and does not scruple to act upon it, in its widest meaning, upon every occasion. Wonderfully well-trained, cunning, and enduring, he is at the same time often obstinate and unmanageable to a degree, and is apparently indifferent to the kicks and blows so liberally showered upon him by his master. Excepting in settlements where neighbouring stretches of *tundra* render the use of sledges possible in summer, he has a long holiday during that season. During this time he wanders over the country at will, sometimes returning at night to his burrow, at others being absent for days together. A good hunter and fisherman, he supports himself upon the game and salmon he catches, and it is but rarely that he deserts his master for good. But the inhabitants have to pay a good price for his services. Owing to his rapacity, it is impossible to keep sheep, goats, or any of the smaller domestic animals, and Kamschatka is one of the few countries in the world in which fowls are unknown.[1]

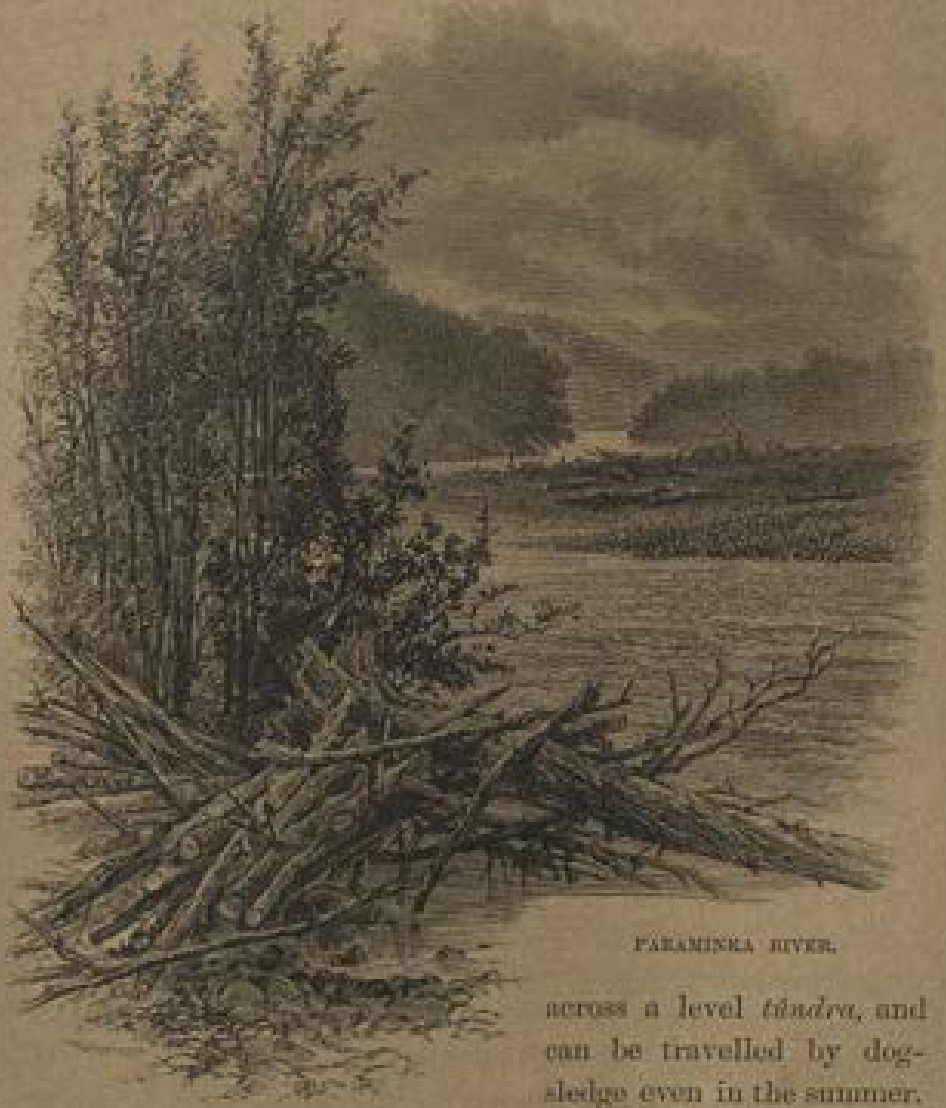
[1] In Petropaulovsky this loss is partially made up for by large quantities of sea-birds' eggs brought from Okhotsk, and the islands at the mouth of Avatcha Bay.

Rien n'est sacré pour un sapeur. Raw hides, boots, and even babies, it is said, occasionally vary his diet!

To our ship's crew Petropaulovsky appeared little less than a paradise. The bright sunny weather and clear cold nights were a pleasant change after the heat of the tropics, and the forecastle mess was furnished with many unaccustomed delicacies. The harbour and rivers teemed with fish; periwinkles *à discretion* were to be had for the picking, and milk and bilberries were abundant. The whiting and herrings were, however, left in comparative peace, owing to the ease with which salmon were to be obtained at the mouths of the Avatcha and Paramiuka rivers. On one occasion no less than three hundred of these fish were obtained at one haul of the seine, and the crew occupied themselves in salting, smoking, and otherwise preserving the spoil. Jack was in his element, and doubtless would not have objected to passing the rest of his life in such a fascinating spot. Our shooting excursions to various parts of the bay were much enjoyed by the boats' crews, and the forward part of the ship began ere long to be ornamented with bearskins that the men had obtained by purchase or barter from the natives. Meanwhile we had been making arrangements with the Ispravnik, and the individual I have before mentioned under the title of the King of Kamschatka, for the ponies that were necessary for the first part of our journey; but, as there was some delay in getting together the requisite number, a party of us started to visit the hot springs of Khuchi,[1] which lie some few miles from the shore on the other side of the bay. Excepting during strong south-easterly winds, which send a somewhat heavy swell into the entrance, the passage across is generally pleasant enough even in small boats. Though blocked with ice in the winter, the bay is, we understood, but rarely frozen right across, although the harbour of Petropaulovsky is, of course, closed for some months. Landing in a bay north-west of the entrance to Tareinska Harbour, we passed through an extensive birch-forest, and emerged at length on the shores of a

[1] Khuchi, I believe, is the Russian word for springs.

picturesque lake, across which we were conveyed in dug-out canoes to a small village on the opposite shore. From here the road lies



PARAMINKA RIVER.

across a level *tündra*, and can be travelled by dog-sledge even in the summer. Kluchi itself is a small village composed of a few log-built huts and balagans, but, with its background of the Vilutchinska volcano, is prettily situated. It stands in an open valley, in which some attempts at cultivation are made. The hot springs—the steam from which is visible at some

distance—have a temperature of about 108° Fahr., and appear to be nearly devoid of sulphur. They are much resorted to by the natives for cutaneous and other disorders, and have huts built over them for bathing purposes, thanks to the orders of the Ispravnik. Near the village runs a branch of the Avatcha River, down which our party paddled to the sea; and on arriving at the yacht we were pleased to learn that most of the horses had been brought into the settlement, and that there was every prospect of our starting on our long-planned expedition through the interior in the course of a couple of days.

CHAPTER V.

KAMSCHATKA—*(continued)*.

We begin our journey—Stampede of the packhorses—The effects of vodki—Starivestrog—Salmon *à discrétion*—Large birches—More stampedes—The fur-trade—Prices of skins—On the *tundras*—Narchiki—Enormous abundance of salmon—Mortality among the fish—A Kamschatkan interior—*Ovis nivicola*—Hot springs—Uses of the birch-tree—Kamschatkan ponies—Gunal—Bolagans—Sledge-dogs—An Indian summer.

EARLY on the morning of August 19th we rowed ashore with a somewhat formidable amount of baggage, and found the horses awaiting us. Of these there were sixteen; and four little foals, engaged in capering round their mothers, were, we learnt, also to join the expedition. This number, owing to our numerous *personnel*, was hardly sufficient, but as we had requisitioned almost all the available cattle in the neighbourhood of Petropaulovsky, we decided to make a start with them, trusting to be able to pick up others at the little village of Avatcha, about twelve versts distant.[1] Our party were ten in number, our three selves with two servants forming the yacht contingent. These latter were old campaigners. Louis, who had served in the Franco-Prussian War, and had been in the army before Paris in the terrible winter of 1870-71, had done much travelling in his master's service and elsewhere, and was without exception the very best servant I ever saw. Spiridione Zemlà, a Maltese Greek, our cook, deserves no less praise. Master alike of his profession and of many languages, he contrived to

[1] A verst is two-thirds of an English mile.

produce dinners under the most trying circumstances which would not have disgraced the table of an alderman. European servants are, in rough travel, by no means always an unmixed good, and it is pleasant therefore to have to record an instance to the contrary. Nor were we much less fortunate in our two guides. Both were old sable-hunters and good backwoodsmen. Jacof Ivanovitch was a solemn, but good-humoured Siberian Russian, who knew the country well; and Afanasi Waren, in whom there was more than a suspicion of English blood, spoke our language very fairly. The latter was a jovial soul with a merry eye, and if report ran true, a great lady-killer. Under the sobriquet of "Half-nasty" he afterwards became an equally great favourite with our crew. Our complement was made up with three half-breed natives, in charge of the packhorses, in whose favour there is but little to say. Of the misdeeds of one of them, whom, from his partiality for the liquor of the country, we afterwards nicknamed Vodki, I shall have more to say in the sequel. Lazy, untruthful, and apt brutally to ill-treat their horses whenever we were not at hand to interfere, they caused the only trouble we had during the first part of our journey. The inhabitants of the river settlements that we were destined to meet with later were, however, as will be seen, far worse; and in comparison with them, our horseboys came afterwards to be regarded in a far more favourable light than they really deserved.

AFANASI WAREN.

The pack-saddles used throughout the country are of an excellent pattern, and owing to the hooks with which they are provided, the necessity for the many lashings which are so in-

convenient in this kind of travelling is avoided. A thick layer of bearskin was placed over the saddle-cloth, and effectually prevented sore backs. Our personal gear, enclosed in bags made from the skin of the hair-seal, was easily adjusted, but the photographic apparatus and other breakable objects required more care and time, and it was noon before we were fairly off. We bade adieu to our friends, and passed out through the narrow gap at the back of the village towards a small lake of brackish water which hems it in to the north. Here at one time stood the hospital mentioned in Captain Cook's "Voyages," but no trace of the building now remains. Circumventing the lake, we struck off to the north-west and, before long, the track, which had never been very well marked, became obliterated. Our path led through a rough but picturesque country, dotted here and there with stunted birches, and we steered across it for a certain point in the landscape recognised by our guides. By our side trotted one of the most ornamental members of the expedition, whom I have hitherto neglected to introduce—Verglaski, a magnificent bear-dog belonging to Jacof, of an aspect almost as solemn as his master. Our horses had hitherto gone fairly well, but during a short halt that we made to adjust some of the packs a stampede occurred, and in an instant the scene was changed to one of the wildest confusion. Kicking, plunging, colliding against trees, and dashing wildly in all directions, it was not long before the horses succeeded in disembarrassing themselves of their loads, and the ground presented the appearance of having been recently passed by a beaten army in full retreat. The horseboys, more than half drunk, pursued the fugitives, cursing volubly in Russian and Kamschatdale; while we, to whom these little unpleasantnesses of packhorse travel had not even the merit of novelty, lit our pipes resignedly and proceeded to gather up the fragments. It was a full hour ere we were again *en route*. These incidents, "tedious as a twice-told tale," and trying alike to the temper and the baggage, recurred again and again. We progressed, as it were, by a series of stampedes, and our horseboys became almost as erratic in their

locomotion as their charges. At this rate of advance our journey's end seemed distant indeed. We pressed on, however, as well as we could, and crossed a small plain from which the base of the Avatchinska group of volcanoes was visible to our right. Their summits were hidden in thick mist, and the weather, which had hitherto been fine, now looked most threatening. Arriving at a small stream, Vodki and his two companions halted, and declaring that there was no water farther on, proceeded to unload the horses. This we soon put a stop to, and telling them that, water or no water, we had no intention whatever of camping for another hour or more, we resumed our journey. The scenery now changed, and we entered a gloomy birch-forest with much thick undergrowth. This was in places six or eight feet, or more, in height, and was composed of coarse grass and giant umbelliferæ, with an occasional blue monkshood, varied in the more open parts with large patches of yellowing bracken. Before long we reached another stream, and were thus enabled to prove the truth of our surmises; but it was not till some time later that we finally halted for the night, the horseboys being by this time scarcely in a condition to proceed farther. We were glad to pitch camp and get a rest, as it had already begun to rain. Before turning in we succeeded in finding Vodki's brandy bottle, but it was perfectly empty. The man had disposed of a pint or more of raw spirit since leaving the settlement!

In this kind of travel movement is not very rapid for the first day or two until every one has shaken down to his work, and on the following morning we were nearly three hours in getting breakfast and striking camp. The horseboys were depressed and inclined to be penitent. If, like an old Kafir servant of mine, they estimated the amount of enjoyment of the previous night by the strength of the morning's headache, they ought, to all appearances, to have been well pleased. We had decided to leave Avatcha on our left, and to make for Stari-ostrog,[1] a small village a little higher up the

[1] The *ostrogs*, or small forts, were erected by the Russians in bygone days as a protection against the natives at the time of the first settlement of the country. The name now alone remains, all traces of fortification having long since disappeared.

Avatcha River, and forty versts from Petropaulovsky. We passed through the same monotonous forests of birch as before, which, like those of other northern countries, seemed singularly devoid of animal life. An occasional coal tit, which from its note and habits appeared identical with the tame little freebooter of our own gardens, or the tapping of a woodpecker,[1] alone broke the almost death-like stillness which reigned around. We had struck a well-marked trail, and progressed in Indian file, the packhorses (tied in fours, each to the tail of the one in front) leading the way, and relieving the monotony by an occasional breakdown or a stampede. Almost all these ponies are strong and well shaped, but from the ill-treatment they receive at the hands of their masters, have learned to bite, kick, and shy on all occasions, together with other accomplishments of like nature which were somewhat apt to disturb our equilibrium. There was but one saddle among us, and the "Kamschatkan Peats," as we named the combination of pillow and pack-saddle which we used as a substitute, though comfortable enough when we ambled along quietly, were apt to become slightly insecure when, as a naval member of our party expressed it, we "made bad weather."

The path between Stari-ostrog and Petropaulovsky appears to be tolerably well-travelled, to judge from the frequency with which we came across the marks of old camping-grounds, but we met with no one on our way. It was afternoon when we reached the river, and crossing a small affluent, found ourselves opposite the village. We had ridden on ahead, and were hailing the natives for canoes in which to cross, when a tremendous clattering in our rear caused us to turn, and we beheld the cook's horse advancing in full stampede, but minus his rider. Beneath his belly a large canteen swung violently from side to side, half-open, and discharging a shower of tin cups, knives, forks, plates, tea and coffee kettles, and other articles of like nature in all directions. We retraced our steps sadly, picking up such articles as we could find, but

[1] *Picus tridactylus*, considered as a distinct species (*P. alpinus*) by Dr. Stejneger.

among them was no trace of Cook. Presently we came upon that imperturbable gentleman, placidly smoking a cigarette. He explained the matter in a few words:—"Very sorry, sir, but" (indicating the horse) "I've never been shipmates along o' one of them things before!"

We crossed the river in two dug-out canoes lashed together. These boats are as a rule small, and without attempt at elegance in shape, such as one sees in Borneo and other parts of the Malay Archipelago. Where the rivers are shallow, long poles are used to propel them, and indeed the natives always seem to prefer this implement to the paddle, wherever its use is possible. The Avatcha River is here about eighty yards in breadth; shallow for the most part, but with a centre channel about seven feet deep. It appeared to be teeming with salmon. Stari-ostrog, situated on the right bank, consists of ten huts and a large number of fish-drying sheds. The long Kamschatkan winters, during which it is difficult to procure food of any kind, and the consequent necessity of fish as an article of diet for almost every living creature in the settlements —the cows and horses even not excepted—create a need for a very large number of these buildings; and the consequence is that, to the eye of the new-comer, the villages appear very greatly larger than they really are. Scanty as the population of this wild country is, the amount of salmon annually consumed is absolutely enormous. At this little village, for instance, we were told that, during the season, 20,000 fish would be no uncommon catch for a single day! Here, however, owing to there being no other settlements higher up the river, they are permitted to stake the stream right across from bank to bank, and the number of fish thus obtained may probably be in excess of that in other places. The labour expended in gathering so abundant a harvest is, of course, very considerable, and during the season the inhabitants work day and night to get in a sufficient supply for the winter.

We were greeted by the headman and brought to his house, where we were regaled with milk, sour cream, coarse rye bread,

and sour bilberries. The houses of the better class of natives are almost all log-built. They are unpainted, and the rooms, unlike those usually seen in the northern parts of Scandinavia, are generally small. Of these there are usually two—rarely or never more than four; and in most of the huts in the larger villages the floors are boarded. As is the case among other northern nations, the houses are in many places raised above the ground, either by means of a foundation of stone, or, like a haystack, by low wooden pillars at the corners. The hut is warmed by a huge brick or stone stove, generally built between the two rooms. It is supplied with fuel only once daily, and the heat thrown out is so great, and the atmosphere, owing to the hermetically-closed windows, so stuffy, as to be well-nigh insupportable to a European. The furniture is simple. A few chairs, an abundance of cockroaches and other less mentionable insects, a rough deal table, and a tawdry gilt *ikon* of the Russian Church—a sort of fetich without which no peasant would feel comfortable—is usually a tolerably full inventory. A house of this kind is, of course, only owned by what may be termed the upper classes—those of Russian blood who have migrated from Siberia. The dwellings of the half-breed Kamschatdales, which I shall presently have occasion to describe, are very different.

While we were superintending the passage of our horses across the river—a somewhat lengthy operation, owing to the depth of the stream necessitating the off-loading of the baggage—we were astonished at being greeted in very fair English by a long, lean cornstalk of a lad, who expressed his pleasure at meeting travellers of that nationality in his own country. He was evidently possessed of no little love of travel himself, and told us that he had been for a year as cabin-boy on board an English steamer trading between China and Japan. His advent was opportune, as through him we were able to make arrangements for three more horses, which we were to pick up on the road the following day. For these, which were to accompany us until we reached the head waters of the Kamschatka River, a distance of about three hundred versts, we

were to pay seven roubles each. The Ispravnik and the King had not done badly; their charge had been exactly quadruple!

In company with our English-speaking friend we went to inspect the fish. These were drying in open sheds, much as tobacco is dried in the Southern States of America. Split in half as far as the tail, cleaned, washed, and deprived of its head, the salmon is hung across a stick in company with fifty or sixty others. These sticks are then placed a few inches apart, with their ends resting upon other poles which run from end to end of the shed. The fish are thus freely exposed to the air, but protected from the sun. They are not hung lower than about eight feet from the ground, on account of the dogs, who are occasionally seen gazing at them with longing eyes and watering mouths, experiencing the tortures of Tantalus. Excepting for a sledge-dog, however, the sight is not a tempting one. Swarming with countless millions of maggots, which distil in a gentle but unceasing rain upon the ground beneath, whitening it as with a shower of powdery snow, the fish seem to be so rapidly disappearing that one wonders how any remain till winter. Another sense beside that of sight causes the same reflection, but neither the dogs nor their masters are particular as to these little matters. The latter, indeed, prefer their fish in an advanced stage of decomposition, and have the same method of preparing it as I have seen in some parts of Lapland. The salmon are buried for three or four months in pits, and any difficulty in extracting them at the end of that time is overcome by means of a ladle!

It was late in the afternoon before we were again *en route*, our course lying north-west through the valley of the river. This bears in many places distinct evidence of the latter having been, at some period, of very much larger size. We then ascended the bluff of the old left bank, and rode through an interminable forest of birch-trees, which were here larger than I have ever seen them elsewhere. Many of them must have been at least a hundred feet in height.

We began the next day with a more than usually exasperating

stampede. These occurrences, though common enough during the earlier part of our journey, became less and less frequent as we advanced, and before we reached our destination had altogether ceased to trouble us. We did not regret it, for no amount of repetition accustomed us to them, and it needed an almost superhuman patience to take them philosophically. We were now passing along a fairly well-marked trail, and, a short time after we were once more in marching order, we met four miserably ragged and dirty natives who seemed to be moving house. They were mounted, and drove before them a couple of cows. We inquired if they had any furs for sale or barter, but they were unable to understand us, and thinking we wanted milk, produced a few drops of that liquid tied up in a small piece of the intestines of a recently-killed bear. This delicacy, however, we declined with thanks. A little later we came upon the new addition to our cavalcade for which we had arranged at Stari-ostrog—three ponies, each of which was accompanied by her foal. We formed now a party of some size, composed of eleven men and twenty-six horses, and the playful gambols of the little foals, though somewhat provocative of stampedes, served to counteract the gloom of the monotonous birch-forests through which we passed. The height of the undergrowth of grass and other coarse herbage was enormous; such, indeed, as I could not have conceived possible for annuals to attain in these northern climes. In many places it was two or three feet above our heads as we rode. There was but little game to be looked for, or at least to be easily obtained, among such rank vegetation, and we pressed on without delay, as our rate of progress since leaving Petropaulovsky had been anything but satisfactory.

Our new horseboy, though in other ways a great improvement on his fellows, was unluckily a somewhat sleepy individual, and signalised himself during the course of the afternoon by causing the most disastrous stampede we had yet experienced. The pack-horses, as I have already mentioned, were lashed together in strings of four, the leading animal carrying a horseboy in addition to his

load. The last string was in charge of our new man, who, overcome by the "damnable iteration" of a birch-forest, fell asleep and tumbled off his horse. In his fall, unfortunately, he dislodged some of the loose packs, which, swinging under the horse's belly, started it off at full speed. Dashing wildly forward, the frightened animals caught the others in rear, upsetting Vodki and communicating the stampede to the whole line. We were at the time in thick forest, and plunging into this, our cavalcade rapidly disappeared in all directions, various ominous cracklings alone revealing their line of progress. When separate individuals of a string try to pass on different sides of the same tree a startling effect is very often produced, but the old and experienced packhorse knows that better results may be obtained by the navigation of a three-foot passage between two birches. We found Ivan supporting his head in both hands, and proceeded to administer a lecture and surgical relief. Vodki, by the really masterly and exhaustive manner in which he was exhibiting the explotive richness of the Russian language, was evidently not in a condition to require attention. There is always, happily, a comical side to these affairs, which makes the traveller regard "the most disastrous chances" to his baggage with tolerable equanimity.

We pitched camp about twelve or fifteen miles from Nurchiki, a little village that in bygone days was one of the palisaded *ostrogs* of the Russians; and though close to a pretty and most likely-looking stream, we were unable to catch any fish for supper, for the first and only time during our ride to the river.

In most bush countries it is the hunter's rule to see that the fire is extinguished, or at least rendered harmless, before breaking camp. In Kamschatka the greatest care is taken about this, as bush-fires invariably cause the sables to desert the neighbourhood for many miles around. As my readers are perhaps aware, the fur of this animal is the most valuable export of the country, and a very large proportion of the inhabitants are employed for the greater part of the year in sable-hunting only. The price obtained by the hunter

for the skins varies very much if these be sold separately. But generally the season's catch is disposed of *en masse*, and a fixed price paid per head, whether good, bad, or indifferent. By far the greater part of the trade lies in the hands of the individual I have alluded to under his title of the King of Kamschatka. That he was by no means beloved of his subjects was abundantly evident, but his power was so great that but few were able, even if they dared, to shake off the hold he had upon them. As the owner of what was, practically, the only store in Petropaulovsky, the natives became easily indebted to him, their account for goods supplied being invariably in excess of the amount allowed for the furs brought for disposal. They are thus, we were informed, obliged to bring the catch of the following season to the same market, where, owing to the absence of competition, the prices are by no means high. If the corresponding profit upon the flour, cloth, and other goods sold be taken into consideration, it will be seen that, with a little capital and an elastic conscience, a fur-trader in Kamschatka ought not to do badly.

In St. Petersburg the price of a single sable-skin ranges from £2 to £25. In Kamschatka the wretched peasant, living upon half-rotten fish and exposed to the rigours of a climate which, in its severity, surpasses that of almost every inhabited region of the world, receives, nominally, an average of sixteen roubles[1] per skin. In reality, as I have stated, he has to take out this value in goods. He is wise if he does so, and can keep clear of the brandy, which, in spite of the law which forbids its sale anywhere but in Petropaulovsky, has proved the ruin of so many of his countrymen.

The price of other skins is generally settled individually. A fairly good bear's skin fetches about three or four roubles. It is only the very finest and largest that will bring as much as seven roubles. A river otter, if in good condition, is valued at the latter

[1] The Russian paper rouble is worth nearly half-a-crown; the silver rouble about three shillings and sixpence.

price, but this animal does not exist in any numbers in the peninsula. The most valuable skin of all is that of the sea-otter (*Enhydra lutris*), which is becoming rarer year by year. A good pelt of this animal will bring even the native hunter as much as a hundred roubles, while in the European market a perfect one has been known to realise £120!

On the morning of August 22d we came for the first time to a *túndra* of considerable size. After the gloom of the birch-forest these vast stretches of level ground have a most exhilarating effect. The feeling of oppressive stillness which but an hour or two before seemed to weigh upon us like a nightmare, disappeared as if by magic, and pushing our horses into an easy canter, we pursued our way with a sense of freedom that is rarely or never felt except by those who ride where fancy leads them over the level surface of an uncultivated plain. The melancholy, the *niedergeschlagenheit* of Kamschatka, of which Kittlitz gives such a long description in his account of the country, I confess I never felt: the converse—a purely physical feeling of delight in mere existence—was often experienced, and a good rollicking drinking-song and a loose rein seemed a necessity in order to let off our stock of superabundant spirits. Long wastes of almost orange-coloured grass stretched away nearly to the horizon, only broken here and there by a still pool, or flecked by little tufts of snowy cotton-grass. Our course—for we were on what a native would doubtless call the "high road" to Narchiki—was marked out by long poles, some fifteen or twenty feet in height, which in winter serve to guide the traveller over the dreary wastes of snow. In the forest another method is adopted. The trees are "blazed" by a vertical slit cut in the bark by the hunter's axe. This gapes with the growth of the tree and forms a conspicuous oval mark, ten or twelve feet above the ground—a height which forcibly impresses upon the mind the depth of the winter snow. Other evidences which told us that the warm sun beneath which we were travelling was an affair of days, not weeks, were close at hand, for the snow lay in thick patches

at the base of the low range of hills bounding the plain,—the finger-marks, as it were, of the icy grip of winter.

We reached Narchiki early in the afternoon, and were greeted by the prolonged howls of innumerable dogs. Though the village boasts of only six huts, there are over one hundred and fifty of these animals to pull the sledges of the inhabitants by day, and to endeavour, in combination with other equally hungry, though happily smaller creatures, to disturb their rest by night. The sledge-dog, indeed, appears to do without sleep, and anything more hideous than their nocturnal concerts it would be difficult to imagine. Fortunately an open-air life and hard work are not generally compatible with insomnia, and after a few nights the traveller would be more apt to miss his music than to abuse it.

Narchiki is placed on a little branch of the Avatcha River, which is here not more than eighteen inches deep. Standing upon its banks we began for the first time dimly to realise the vast numbers of fish which must annually visit the country, and which may be said literally to choke its rivers. Hundreds were in sight, absolutely touching one another; and as we crossed the river our horses nearly stepped upon them. Their back fins were visible as far as we could see the stream, and aground and gasping in the shallows, and lying dead or dying upon the banks, were hundreds more. The odour from these decaying fish was distinctly perceptible at a distance of a couple of hundred yards or more. In weight these salmon varied from seven to fifteen and even twenty pounds. They were for the most part foul fish,—blotchy with patches of red and white, and of the kind known by the Russians as the Garbusa;[1] but others in fair condition were to be found, and with a little trouble I was able to pull out three good ten-pound fish in as many minutes with a gaff. Any other method of fishing would have been useless. It would have been nearly impossible to make a cast without foul-hooking a fish, and nine-tenths, or more of them, were in an uneatable condition. Had we wished to do so, we

[1] *Salmo proteus* of Pallas.

could have pulled these latter out of the water with the gaff until we were tired.

While we were engaged in procuring our supper by this simple method, a native came down and watched our proceedings. Taking a spear he went a little way up stream, and soon returned with half a dozen fish which were a great improvement upon our own selection,—for I can apply no better term to it. They were of three species:—one a long charr-like fish, of a brilliant salmon-colour beneath, but with the back dark green, and with a most peculiar lower jaw. This closes into a sort of groove or socket in front of the upper jaw, producing a very extraordinary under-hung appearance. Its native name is Gultsi.[1] The other fish were a grayling (*Thymallus*) somewhat like our own, but not so deep; and a species of trout with obsolete spots.

The vast quantities of salmon which fill the rivers of Kamschatka in the manner I have described cease in course of time to astonish the traveller, who goes down to hook his supper out of the stream as naturally as he gathers the firewood to boil his kettle. But to a new-comer the sight is an astounding one. The millions of fish that are caught, and form the food throughout the year of almost every living creature in the country, are, however, as nothing compared with the countless myriads that perish naturally. I had at first supposed that the rotting fish that lined the banks, and here and there lay piled in little heaps together, were the victims of some unexpected and fatal epidemic. But I soon learnt that there was nothing unusual in it, and that it was an annual phenomenon of as constant occurrence as the breaking up of the ice.

We entered one of the huts in order to eat our lunch and rest the horses before proceeding on our journey. It was combined with the stable, through which one had to pass before entering the only habitable room. This was tolerably clean, and boasted of a couple of chairs and a table; but we had already got beyond the region of glass, and the windows were made of strips of bear-gut

[1] *Salmo orientalis*, Pall.

sewn together. They admitted enough light, however, to show us the strange mixture of ornament that hung upon the walls. In the corner was the usual tawdry *eikon*, and facing it, a long array of clippings from the "New York Police News," full of the choicest horrors of battle, murder, and sudden death! Amid these lively surroundings we consumed our sour milk and bilberries, and bargained for some potatoes and turnips, which appeared to be grown here in some abundance. Much, no doubt, might be done in the way of agriculture in many parts of the country were it not that the fish-harvest and hunting take up so much of the peasants' time. Of their success in the latter line we had evidence in a fine pair of horns of the Argali or Bighorn,[1] which lay outside the hut, and had only recently been shot. These animals, we were told, are not easily obtained at this season, and do not exist in any great numbers in the neighbourhood; but in the winter they descend to the lower spurs of the mountains, and are more easily brought to bag. We much desired to obtain a head and skeleton of this sheep, but our limited time, and Afanasi's statement that we should be able to get them on the sea-coast about sixty miles to the eastward of Avatcha Bay, eventually decided us on relinquishing the idea of hunting them in this neighbourhood. We were pleased, however, to be able to prove their existence in the interior, which has by some previous writers been doubted.

We pursued our journey in a steady downpour of rain, our track leading through course grass and other annual vegetation so thick that from the back of a horse it was utterly impossible to see any trace whatever of the way. Our two hunters had donned their waterproofs,—long coats made from the intestine of the seal, carefully sewn together with sinew. These garments are tolerably strong in a thornless country, and though not ornamental, are as light as a feather, and most effectual in keeping out rain. We passed to the south of some hot springs, about two versts distant from the village, the water of which was said to be of such a temperature

[1] *Ovis nivicola*, Eschscholtz.

that the hand could not be borne in it. Of these, as in Japan, there are many throughout the country, and they are greatly used for bathing purposes. At Malka, between Narchiki and Gumal, there is a spring of sulphurous water of great heat, in close proximity to another which is said even during the summer to stand steadily at the freezing point. We were, however, unable to visit it, and turned northward, passing across a *tándor* nine miles in length, and uninteresting enough in such weather. We had the pleasure, however, of seeing Volki deposited in five feet of water in consequence of having fallen asleep upon his horse, but it must be confessed that our amusement was somewhat damped by discovering that our own personal baggage had suffered a like immersion.

We camped once more in a birch-wood, and but for the proximity of these trees we should have had no little difficulty in making a fire, as the forest was dripping wet. The birch is to the inhabitant of northern regions very much what the bamboo is to the native of the south. It is his general-utility tree, and without it he would indeed be badly off. The stem is used in the construction of the sledges, and the inner bark is said to be eat green and used for food. From the knotty parts of the wood good spoons are made, while the multifarious uses to which the smooth and pliant bark is adapted in the construction of dishes, cups, and vessels of all kinds are so well known by every northern traveller as to need no description. The boxes are often much

BIRCH-BARK BOX.

ornamented with stamped designs, and are occasionally painted, or rather dyed, with blue and white; while the oval shape so commonly seen in Scandinavia is not infrequent. To the European traveller the tree is equally useful. Cups and other articles can be made with the greatest readiness; fires can be lighted in the wettest weather with the thin inflammable bark, and the inner layers of the latter form excellent writing-paper, the characters on which no quantity of rain will injure or render illegible.

The scenery some miles north of Narchiki begins to alter in character, an alteration that is distinctly for the better. The monotony of the birch-forests is relieved from time to time by openings where the dense undergrowth is supplanted by little rocky knolls covered with bright mosses. The ground becomes more broken and the open spaces larger, and before long the country approximates closely in character to that which, in Scandinavia, would be designated the lower fjells. We had hitherto shot but little game, but here ptarmigan were abundant,[1] and we were able with ease to secure as many as were necessary for the table. Farther on, we came to a small stream, which was, most probably, an affluent of the Great Bolcheresk River, which debouches into the Okhotsk Sea on the western coast of the peninsula. It was crowded with dead and dying fish; and the remnants of some recently devoured ones upon the bank, together with fresh spoor of bear around them, told us that, in all probability, Bruin was not far off.

I had never before seen the tracks of this animal in such abundance, but farther north it was common enough to see the river-banks as much trampled as if a herd of cattle had been driven down to water. The bears at this season of the year live entirely upon salmon. Later, when this diet fails them, they take to berries, upon which they live until the time of hybernation, which is generally

[1] Probably a sub-species of, or perhaps identical with, the Dal-ryper or Willow Grouse of Scandinavia (*Lagopus albus*). I unfortunately omitted to preserve specimens of this bird until it was too late, and we did not shoot any after we had once begun the river journey.

IN THE GUNAL VALLEY—A STAMPEDE. Page 103.

when the first heavy snow falls, at or about the beginning of the month of October. If in poor condition the bear is said not to hybernate till much later. According to the natives, the animals are tolerably fat on emerging from their dens, and support themselves on grass until the arrival of the fish.

Our road, some time after leaving Narchiki, had led to the west, in order to avoid a range of mountains of no great height which trends in a south-easterly direction from the village of Gunal. We now turned north once more, and entered a beautiful valley. To the east lay the range we had been circumventing, rising to a height of about 4000 feet, its large patches of snow glittering in the bright sun. The outline of these mountains was most picturesque; and, as we advanced, we opened out a group of *aiguilles* so jagged as to resemble a mass of inverted icicles. The valley was scantily clothed with juniper-bushes and dwarf birches, and early autumn had already touched the landscape here and there with patches of bright yellow. As we rode over the ruddy ground, which with its brilliant parti-coloured moss is so characteristic a feature of northern landscapes, we put up several coveys of ptarmigan; and on the outskirts of a small wood we obtained our first Capercailzie, a young bird which, like many other birds of this region, was characterised by the presence of a good deal of white in the plumage. The day was glorious, and so hot that we rode in our shirt-sleeves; our enjoyment only marred by the almost constant stumbling of our horses over the stumps and roots of the trees. The Kamschatkan ponies, which are generally iron-grey in colour, and stand about thirteen hands, are well shaped and have a good barrel, and are capable of a considerable amount of work. Owing, however, to the rough usage to which they are subjected, they are determined kickers, and obstinate to a degree; and it is most difficult to make them lead the way, or, if behind, to prevent them from following in the exact track of those in front. No food is carried for them, and not content with the nightly meal they obtain when picketed, they one and all feed in snatches as they

go along, an annoying habit of which it was impossible to break them. Their ordinary load is from six to seven pood.[1]

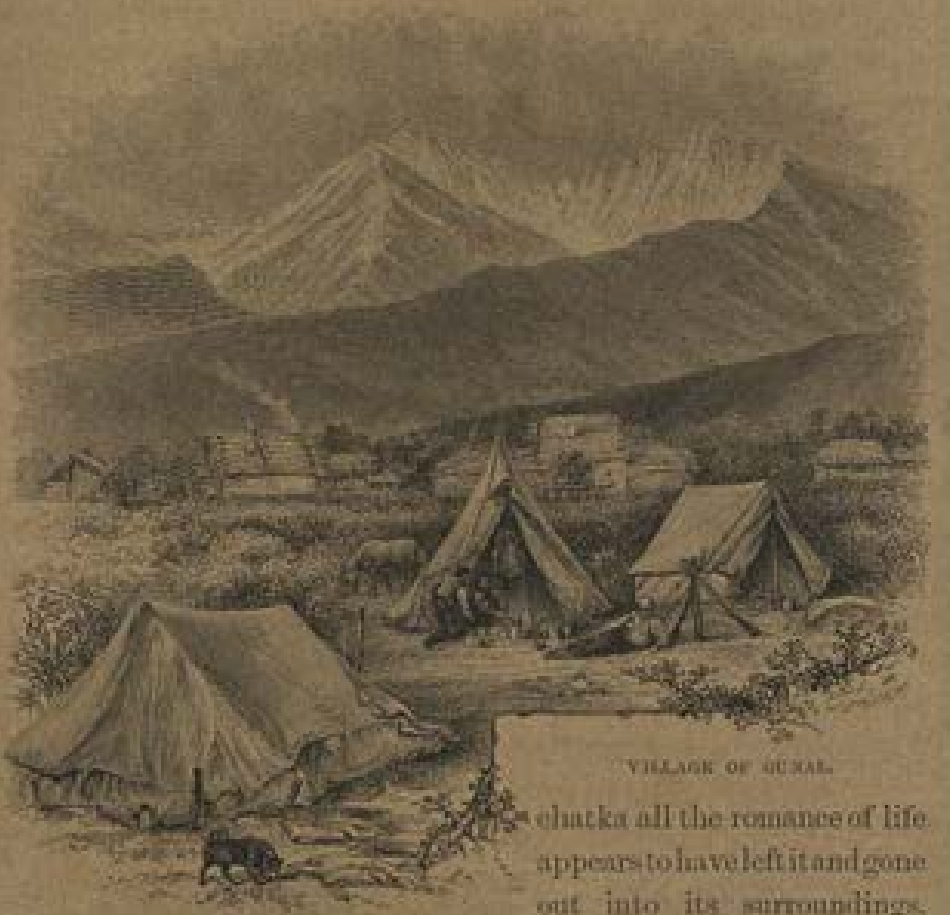
It was not long before the presence of some large poplars ahead, combined with certain whiffs of decaying fish, to which no description can do justice, warned us that we were in the neighbourhood of a river; and the howls of sledge-dogs presently greeted us as we arrived at the settlement of Gunal. We found some of the inhabitants engaged in making a bridge,—really a very creditable affair, as the river here is about twenty-five yards broad, with a channel some six feet or more in depth. Above the village this stream—the Bolchaia-reka, or Great Bolcheresk River—splits into two or three branches, which reunite a quarter of a mile lower, after having received two rapid, but shallow little affluents from the west.

Gunal is a most picturesquely-situated little hamlet of about twenty huts, and has a population of ninety-four souls, who are all, without exception, the descendants of Russians who established themselves here with Kamschatdale wives in the last century. The latter people are now rare as a pure race, excepting upon the western side of the peninsula. The Gunalians are all Christians, and have built themselves a church,—a small log-cabin surmounted with a cross. Within the same enclosure, but separate, just as in Northern Sweden, is a little belfry with a single bell, time-worn and defaced. Owing to its inaccessibility, we were unable to read the inscription with which it was adorned. The church is parsonless. There are but three popes for the whole of the vast district lying between Petropaulovsky and the mouth of the Kamschatka River. Here the nearest is at Melcova, a hundred versts or more away; and once in every four months he comes in, marries and buries such of his parishioners as need it, holds service, and departs. He has not much to do, for the people are both apathetic and long-lived. In the little churchyard hard by there were scarcely twenty graves. They were marked by Russian crosses with a little

[1] A pood is equal to 36 lbs. English.

bronze or brass crucifix roughly nailed on, but there were no inscriptions of any kind.

We pitched our camp at the edge of what, in England, would have been the village-green,—a little two-acre patch of real, short English turf, at a bend in the river. It was a lovely scene. In Kams-



VILLAGE OF GUNAL.

chatka all the romance of life appears to have left it and gone out into its surroundings. But, however sordid and material the lives of those whose whole existence is one constant struggle against such a climate must be, there is no doubt that nature is here as prodigal of her beauty as she is in any part of the known world. Farther north, in the neighbourhood of the huge volcanoes whose very names are unknown to the vast majority of Englishmen, the scenery is of unsurpassed magnificence. Here it was of a far less

pretentious type, but possessed, nevertheless, of a quiet beauty so perfect in its kind that the most fastidious of critics would have sought no alteration. Below our camp the river clattered between its banks of yellowing birches towards some snow-capped mountains that distance had painted a deep violet. The village, grey, battered and weather-worn, as are all these northern hamlets, nestled at the foot of the three peculiar peaks of the eastern range of the valley. Not a human being was to be seen, and the smoke of our evening camp-fire rose like a straight blue pillar into a golden sky. Around us was a stillness that could be felt,—the wondrous silence of the North; and on the summit of the little cross above the church a crow sat motionless in the evening sun,—a speck of steely blue against the snow beyond.

Gunal, with its enormous stores of salmon, seemed, like all these Kamschatkan villages, a place of considerable size. A nearer acquaintance, however, soon dispelled the illusion, and we noticed that a large proportion of balagans seemed to be used as storehouses rather than dwellings. These buildings, which differ from the fish-sheds only in having a living-room at the top, and being consequently rather more solidly constructed, are rudely made of white poplar or birch trunks, pines being comparatively unknown in this part of the country. There are rarely more than two—at most three—tiers of fish drying beneath, for the sledge-dog is an active and ever-hungry animal, and six feet would be a dangerous height at which to suspend a salmon. The roof is high-pitched, and the thatch secured by means of light poles tied transversely across it. The entrance, a low door in the gable, is reached by a sort of ladder specially contrived for the humiliation of the unwary. It is merely a notched pole, placed loosely against the building, and not secured in any way; and the incautious European attempting the ascent is somewhat astonished to find the pole rapidly revolving, leaving him clinging back downwards and discomfited. This simple arrangement, if capable of being put in action at will, might possibly be of considerable utility to those

who suffer from a plethora of callers in our own country. I commend the suggestion to the more progressive of my readers.

The inhabitants of the village had already begun to get in and tie up their dogs in anticipation of the coming winter. There were over two hundred of them here, and we had ample opportunity of studying their habits. Most of them are white, with

BALAGAN AND SLEDGE DOGS.

black heads, or entirely of a brown-black, and their general aspect, owing to the sharp muzzle and prick ears, is decidedly wolf-like,—an appearance that one is familiar with from the sketches of North American travellers. The only food they are provided with by their masters is salmon of the hump-backed kind—the Garbusa; but during the summer, as I have already said, they pick up game, eggs, and birds in their wanderings about the country. They are usually inspanned in teams of eight or ten, but where the sledges are heavy or the roads bad, double that number, or even more, are occasionally used. When the snow is hard and even, they will

draw a weight of 360 lbs. a distance of five-and-thirty or forty miles with ease in a day's work; and with an unloaded sledge with a single occupant, a pace of eight versts an hour can be kept up for a considerable time. On the road they are given one-third of a fish twice during the day, and a fish and a half at night, which they wash down with a few gulps of snow. The dogs are castrated when puppies, and have their tails cut at the end of the first year. Each has a name, which he answers to when he is driven in the sledge just in the same way as a Cape ox in a waggon team, for no whips are used. If chastisement be necessary, the driver throws his stick at the delinquent, or pounds the unfortunate creature with any stone that comes handy. There are many ways of tethering these animals, all having in view the one object of keeping them apart, as, excepting upon the road, they seize every opportunity of fighting. One method—the one that obtrudes itself most upon the traveller's notice—is by making a large tripod of poles, and tying a dog at the bottom of each; and in many villages, owing to the large number of dogs which have to be kept, these tripods form a characteristic feature.

We had many reasons to induce us to take a couple of days' rest at Gunal. Louis was suffering from a chill consequent on the wetting of the previous day; one of us had a slight touch of fever caught some years before in Africa; and at the camp kitchen Cook sat a prisoner as a surgical patient, imperturbably smoking cigarettes and picking up Russian from Afanasi. A slight injury to the ankle, combined with mosquito bites and many hours of riding, had produced an inflamed leg,—a rather awkward accident at this juncture, as we wished to press on as rapidly as we could. In addition, the camp gear needed drying after Volki's exploit, and as there were said to be plenty of bear in the neighbourhood, we settled to remain.

The following day was gloriously hot, and before long the camp presented the appearance of a washerwoman's drying-ground. The sun heat was, indeed, so great that we gladly took refuge in

the tent, and at noon the mercury stood at nearly 80° Fahr. in the shade. These hot days are not unusual at the end of August, and constitute a sort of Indian summer, which, as in Lapland, is but the immediate precursor of an autumn so short as hardly to be dignified by the name of a season. At sunset the temperature fell rapidly, and at night it was so cold that we were glad of four blankets, the thermometer being at or about freezing point. A range of something like fifty degrees in a single day is not often seen, but weather of an almost exactly similar kind is met with during winter on the high table-lands of Southern Africa. The Kamschatkan autumn cannot always be relied on, for, from what we could gather from the natives, it is not unfrequently attended with a very heavy rainfall, and occasionally with much wind.

We had hoped to find Bighorn in the mountains in the neighbourhood, but, greatly to our disappointment, the people of the village told us that these magnificent sheep never come down to the lower spurs of the range before winter, and that it was useless to go after them. This was the second time we had to give up the idea of hunting them. We were, however, more fortunate with the bears, and succeeded in bringing one to bag upon the first day after our arrival.

CHAPTER VI.

KAMSCHATKA (*continued*).

Abundance of bears—Ptarmigan—The Palæarctic region—Valley of the Kolcherask—Arrive at the Kamschatka River—Dense growth of annuals—The sable—Methods of catching it—Puschina—Kamschatkan birds—Verglaski fishes the river—Kamschatkan salmon—The Tcharvitchi—Krasna—Haiko—Garbusa—Kisutchi—Gultsi—Other salmon—Habits of bears when fishing—We arrive at Sherowny.

We left Gunal on the morning of August 27th. Our two days' rest had done us all good, and Cook's disabled leg, which had at one time caused us some anxiety, was sufficiently well to risk going on. The injured member had not prevented his superintending the making of some most excellent bilberry jam. We had killed a fatted calf, of which, after much haggling, we had become the possessors for the sum of twelve roubles; and the carcase had been duly converted into veal and a good supply of stock. From our saddles hung several couple of mallard, and the larder on the whole was in as satisfactory a condition as it well could be. We had woke to a heavy mist, which rendered even near objects distinguishable with difficulty, but it lifted gradually under the rays of a bright sun, and before we were well off, and had turned to catch the last glimpse of the beautiful scenery around our late camp, the day had become all that the most *exigeant* of travellers could desire. Under hot suns like these the signs of autumn appear with wonderful rapidity, and we noticed that the tints were distinctly brighter than they had been but three days before.

We passed two of the level seas of marshy ground that for lack of a better name I have hitherto called *tündras*. The term is, strictly speaking, applied only to the vast stretches of ground of this nature that are so wearisome to Siberian travellers. Here, however, the only difference lies in the size, and as we have no corresponding English word, I have preferred to retain the Russian name. The thick forests of birch were no longer to be seen, and the country, though still wooded, was more open, large clearings

BELFRY AT OCHAL.

being not infrequent. The familiar monkshood, too, whose spikes of flower are in Kamschatka snowy white, as well as of the ordinary shade of violet that our English gardens exhibit, had almost entirely disappeared, and we saw but little more of it during the rest of our journey! The number of bilberries was enormous, but the cranberry was much less abundant, and its berries as yet were hardly ripe.

Riding quietly along in advance of our party, we suddenly came almost upon the top of two very fine bears, with a young cub between them. We were unfortunately without our rifles at the time, and before we could get them the animals had made off,

greatly to our disgust; and, though we spent some time in following them up, we did not succeed in getting sight of them again. They had doubtless got scent of us, and were far away. Bears are always much more disturbed by getting wind of human beings than by any noise the latter make, or even by their appearance; and the hunter, although his movements are by no means those of the stealthy-footed Malay, knows that unless he works to windward his trouble is in vain. The number of these creatures in Kamschatka must be enormous. Afanasi told us that there are hunters who have killed over four hundred in their lifetime, and we heard that at a little hamlet on the Bolcheresk River more than ninety had been shot and trapped during the summer. July, August, and September are the best months for them, as they haunt the river-banks at that season for the fish, and are in most excellent condition.

The heat at noon was nearly as great as it had been on the previous day, and the business of supplying our larder with ptarmigan for the many mouths we had to feed involved a very considerable amount of exertion; and, as we ploughed through the soft moss, sinking up to our knees at every step, "larding the lean earth as we walked along," it was difficult to realise that at night-fall we should be back again in an Arctic climate. The birds were luckily tolerably abundant, and we had obtained a sufficient number on pitching camp for the night. Capercailzie apparently were rare. We had seen but few, and up to this period had only succeeded in obtaining one, and our game-birds were consequently limited to the Willow Grouse.

The Englishman travelling in Kamschatka who has reached his destination, not by the desert steppes of lonely Siberia, but by way of Ceylon and sweltering Singapore, where almost every bird he sees is unfamiliar to him, cannot fail to be struck, however unobservant he may be, with the resemblance of the avifauna of the new region in which he finds himself to that of his own country. He disturbs a Turnstone or a Golden Plover as he lands, perhaps,

and notices a familiar-looking wagtail running along the well-trodden paths of the settlement. Overhead, maybe, hovers some bird of prey, which he may recognise as an Osprey or a Hobby; and as he shoots his first grouse, or notes a woodpecker tapping at a tree hard by, he identifies them, or at least thinks he identifies them, with like species he has met with in his own or some Norwegian wood.

In the majority of cases he is right. In others he is, at all events, not far wrong. For, in consequence of the similarity of the fauna which extends over the whole of Europe and Northern Asia, zoologists have been led to group these countries together under the name of the Palæarctic Region, and the species which are common alike to Great Britain and Eastern Siberia are numerous. Kamschatka abounds with birds of wide range with which the European traveller is quite familiar, but its peninsular position has at the same time had a certain influence towards the creation of representative forms, among which those of the Great and Lesser Spotted Woodpecker,[1] the Capercailzie, and the Marsh Tit may especially be instanced. In all these the differences consist for the most part in the greater predominance of white in the plumage, and this tendency to albidism is noticeable, as I have already mentioned, in other animals besides the birds; the dogs and horses likewise showing it in a marked degree.

We wasted some time of the morning of August 28th in tracking a large bear that Afanasi had wounded on the previous evening.

[1] *Picus pipra*, the eastern form of our *P. minor*, is found over the greater part of Siberia, and even in Japan. Kamschatkan individuals are noticeable as exhibiting the characteristics of the species in a more marked degree than those of the adjoining continent. In the same way the *P. major* of the peninsula differs from that of Europe, and has recently been raised to specific rank by Dr. Stejneger as *Dendrocopos purpuratus*. It differs "in having the breast and upper abdomen very pure white, the white of the lateral rectrices without, or almost without, dark markings, and possessing a white spot on the outer web of the longest primaries near the tip." The specimens that we obtained in our journey through the country bear out this description except in the last-named particular. Both these woodpeckers were comparatively common in the country round Gunal.

He had been hard hit, and marks of blood were plentifully visible as we took up the spoor. The vegetation was, however, so thick, and everywhere so overrun with the trail of these animals, that before long we had to give up the search, in spite of the aid of Verglaski. We therefore returned, and striking camp, proceeded up the valley of the Bolcheresk River, as on the previous day. The river here runs due south through a flat plain covered with yellow grass and about three or four miles in width. It is hemmed

REINDEER RIDING, KAMSCHATKA RIVER.

in by mountains which are at first of no great height, but as the head of the valley is approached the scenery becomes finer. We rode towards it under heavy rain, but before long the weather cleared, and disclosed to view a gloomy gorge on our right, about eight miles distant, from which the river evidently debouched. At the same time another valley became apparent, joining in from a north-north-westerly direction, and the stream which flowed through it appeared to have the same source as the Bolcheresk, or at least to rise at no great distance from it. We had got at last to the head waters of the Kamschatka River!

Early in the afternoon we arrived upon its banks, and it was with no little interest that we inspected the river that was to bear us some four or five hundred miles upon its bosom before we reached the sea. It was a little stream barely fifteen yards across, and not more than a foot or eighteen inches in depth. The Bolchaia-reka, which we had just left, had been teeming with fish, but here not one was to be seen, and the disgusting smell of decaying salmon that is in Kamschatka the almost invariable sign of the proximity of a river, was conspicuous by its absence. In a small grove of trees close by we found two rough log-cabins, which had doubtless been the winter quarters of some sable-hunters. They were deeply sunk in the ground, and by their dilapidated condition, had evidently been built many years ago. We were not sorry to find them, as it was our intention to camp here and try for bear, and at the same time, if possible, to explore the source of the two rivers. To our great disgust, however, the presence of a kettle hanging on a stick, and the yet warm ashes of a camp-fire, spoke in unmistakeable terms of the ground having been so recently disturbed as to render our chance of sport in the immediate neighbourhood but a poor one. We accordingly pushed on, and after riding for a couple of hours, struck the river once more at a most picturesque bend in its course. The ground in the vicinity was covered with fresh bear-tracks, and thinking we could not do better, we once more prepared to camp. At this juncture Vodki appeared, and begged us to try further on, where the ground was everything that was perfect, and the bears in incalculable multitudes. "Just one verst more, little father." For the first and only time we yielded to his advice, and resumed our march. Verst after verst was passed and still it was "one verst more." Two hours and more elapsed before we began to realise that we had been befooled. To be befooled by Vodki!—the thought was too galling. Not in the best of tempers, we altered our course for the river at once, debating what form of punishment we should adopt. Our trouble, however, was saved us. Vodki, in no better temper than we at his plans

having failed, kicked one of the packhorses violently in the belly while unloading it. The effect was excellent. The poor animal, who, like the Pope's mule in Daudet's charming little story, had many an old score to pay off, turned round and hit his aggressor so successfully in the face as to leave him with a portion of his cheek hanging down. Here we interfered to prevent reprisals, and while the conqueror was led off to a patch of the most succulent-looking grass we could find, Vodki retired to his tent to nurse his wound for the next two days.

Accustomed as we had become during the earlier part of our journey to the wonderfully dense growth of the annual herbage, especially in the birch-forests and in the vicinity of the rivers, I do not think we had ever seen it in more rank luxuriance than we found it here. Our camp was pitched on a little eminence two or three hundred yards from the river, but the latter would have been almost unapproachable had it not been for the numerous bear-tracks that led in every direction through the forest of grass. As it was, the vegetation rose three or four feet above our heads, and was in places so thick that we could never be sure that our next footstep would not precipitate us into one of the hidden streams with which the marshy ground abounded. In such ground shooting is almost impossible, and the only plan is to lie up in concealment on the banks of the river, on the chance of a bear coming out in the neighbourhood to fish.

We spent the remaining two or three hours of daylight in this monotonous and chilling amusement, and rose wet and stiff with cold without any success having attended us. The bears had in all probability deserted this part for some other place where fish were more numerous, and the only recent spoor we saw was that of an otter, an animal that is apparently far from common in the peninsula.

The following morning, since there appeared to be no fish in the river, we put our rods together and tried a fly in Kamschatkan waters for the first time. Paradoxical as it may seem, a river of

this kind presents the only condition under which this sport is feasible, at least at this season. With the river choked with foul and dying fish, where every cast would foul-hook a fish that would be unstable on landing, it is of course an impossibility. Here the stream was free from salmon, but though we hoped to obtain some trout or grayling, it seemed to be equally devoid of these also; and having spent an hour or two without getting a rise, we returned to camp. We found that one of our party who had been out after capercailzie had been fortunate enough to shoot a sable. The animal had been found by Verghaski, who had chased and treed it, and in spite of its not being, from a hunter's point of view, in full condition, it had been duly added to the bag. Our hunters told us that it was extremely rare to see sable at this time of year. The winter coat had begun to grow, and was, indeed, of tolerable length and quite fast. In spring, although the winter fur may be still on, the pelts are said to be quite useless, as the hair drops out even after the skin has been prepared. The animal measured twenty-seven inches in extreme length; the tail, which was not furnished with the thick brush so characteristic of the winter skins, seven inches; and the value of skin in the Petropaulovsky market was estimated by Afanasi at four roubles. The price given for winter sables is, as I have already stated, sixteen roubles.

The sable is always skinned from the tail—bag-shaped—and while performing this operation in the approved fashion of the country, we listened to a sermon on sables and sable-hunting from Afanasi. They are, he told us, for the most part of nocturnal habits, and, though they occasionally feed by day, generally spend that period of the twenty-four hours in holes at the roots, or in the trunks of trees. They dislike the presence of man, and are rarely to be found in the neighbourhood of the villages; their favourite resort being the depths of the forests least frequented by the natives. It is considered that the most inaccessible and least known parts of the country are the best hunting-grounds. They live on hares, birds of all kinds, and in short, almost any living

thing they can kill, but they are also said to eat berries, and even fish. There are, indeed, but few animals, apparently, which do not live on salmon in Kamschatka. They have only one litter during the year, generally in the month of April, and bring forth four or five young at a birth in a nest in the holes of trees. When the hunter is bitten for the first time by one of these animals, the bite is almost invariably followed by severe illness; but on subsequent occasions no ill effects, with the exception possibly of slight inflammation of the wound, are produced.

There are various methods employed in catching sables, but a less number are trapped now than used formerly to be the case. Dogs are almost invariably employed, to run them down in the deep snow or to tree them; and they are also smelt out by these trained animals in their holes at the roots of trees. The great object is to tree the sable if possible. The hunter then surrounds the base of the tree with nets, and either shakes down his quarry or knocks it off the boughs with sticks. If it does not fall into the net it is run down by the dogs, or compelled again to take refuge in a tree. Should the tree be too high for this method to be successful, it is cut down, or the sable is shot; but the hunters generally avoid the use of the gun if possible, as it is apt to spoil the skin.

The hunters usually start on their winter's expedition towards the end of September, if their destination be a distant one. If it be in better known country and closer at hand they wait until the first snows have fallen, and do not leave before the middle of November. They train dogs especially for the purpose, and a good sable dog is one of the most valuable of a Kamschatkan hunter's possessions. A catch of twenty sables in a season is considered exceptionally good. Jacof Ivanovitch and one of our horse-boys, in company with two other hunters, had on the preceding winter tried some new ground on the shores of the Kronotsky Lake, and had been particularly successful. Jacof had only succeeded in killing fifteen, but our horse-boy had bagged no less than forty; and the total

number killed by the party was close on one hundred and twenty skins. The Kronotsky Lake, which has never yet been visited by Europeans, lies south of the great group of volcanoes at the mouth of the Kamschatka River, and some sixty miles east of Meloova.[1] It is now completely deserted by the natives, but, as far as we

SABLE.

could gather from our hunters, it has remains of ancient lake-dwellings on its shores, with deposits of shells and other objects of like nature resembling the *kjokken-moddings* of Northern Europe which, as far as I am aware, are unknown in the country at the present day.

Of the number of sables killed annually in Kamschatka it is

[1] Both Meloova and the lake are wrongly placed on the Admiralty chart; the former is nearly ninety miles north of its assigned position!

difficult to form an estimate. The greater portion no doubt are exported *viâ* Petropaulovsky, this port draining the large extent of country in the region of the Kamschatka River, but a good many must find their way to Poleheresk, and some others to Tigil, a settlement in the northern part of the peninsula which has only a difficult communication with the villages on the lower part of the Kamschatka. In Petropaulovsky almost all the skins pass through the hands of the "King of Kamschatka," and the number exported by him for the season of 1882 was over two thousand. The profit on each skin probably averaged at least forty shillings, and it must be allowed that, however gloomy the outlook in Hudson's Bay and elsewhere may be, there is at least one part of the world where the fur-trade is not "played out."

We left camp again on the morning of August 30th, and after two hours' travelling came to the little village of Puschina, if village indeed it can be called. It now appeared that Vodki's plan had been to get us on to this place if possible, partly because he preferred a hut to tent life in wet weather, and partly, according to Afanasi, because he was afraid of the bears. Puschina consists of three huts only, with the usual proportion of fish-drying sheds, and boasts of a population of fifteen souls. In 1787, according to Lesseps, it was larger than Gunal. The inhabitants appeared dirty and miserable creatures, and were more of the true Kamschatdale type than any others we had yet come across. One or two of the huts or storehouses were raised above the ground on pillars, and much resembled a Norwegian *stabur* in appearance, except that there was a complete absence of carving. It is rare to see any settlement in Kamschatka which is not placed actually on the banks of a river, but Puschina, standing two or three hundred yards away, is one of the exceptions, probably owing to the fact that the banks of the stream are here very low, and the rise of the river during the period of the melting of the snows is often very considerable.

We rested our horses and obtained a draught of fresh milk

before resuming our march, for at almost all these settlements cows are kept. The milk is generally very rich, and is one of the few luxuries the country affords the traveller, unless, indeed, the cows should happen to have been feeding on the wild garlic. What effect the diet of half-rotten fish on which the poor animals feed in winter may have, I do not know. We noticed, however, that many of the birds we shot and preserved on the expedition smelt strongly of decaying salmon.

During the land journey the actual number of species of birds we met with was but limited, although individuals of some kinds were sufficiently abundant. The Capercailzie (*Tetrao parvirostris*, Gray), though not unlike the European species with which Scotch and Norwegian sportsmen are familiar, differs from it in several particulars. It is markedly smaller in size, shows a strong tinge of grey on the upper surface, and is especially characterised by the tendency to white in the plumage. The feathers of the wing coverts and those of the prolonged upper and under tail coverts are broadly tipped with this colour, and the general appearance of the bird is very handsome. The forest districts are poor in bird-life; the woodpeckers I have before described, small flocks of buntings (*E. rustica*), bramblings, and two species of the genus *Parus* were almost the only noticeable kinds. One bird, however, which I have not yet mentioned, appeared tolerably common—the sober-coloured, but graceful dark ouzel (*Merula obscura*, Gmel.) I met with it many months later, amid very different surroundings, in the depths of a Bornean jungle. It is migratory in its habits, nesting in Siberia and passing the winter in the Malay Islands.

By the rivers there is more life. Many of the so-called sea-birds haunt the streams for a considerable distance inland, and at Stari-ostrog we found large flocks of a gull closely resembling our own Kittiwake (*Rissa tridactyla*). A graceful tern (*S. longipennis*, Nordm.) was almost equally numerous at the same place, but we did not again meet with it for some time, and on our return to Petropaulovsky it had already departed for the warmer regions of

the south. Corvine birds are abundant wherever there are fish, and large flocks of the common crow (*C. corone*) are always to be found perched on the trees in the vicinity of the rivers, or pecking at the piles of dead fish rotting on the banks. The familiar chatter of a magpie, which differs but slightly from our own bird, is as common a sound in Kamschatka as it is in England, and the rigours of an Arctic winter appear to have had no sobering effect upon his character.[1] Ravens too are here, and by the side of the stream runs the Wood Sandpiper (*T. glareola*), almost the only bird of this genus that we noticed on our journey. The surface of the water is dotted with various species of duck, of which mallard and teal[2] are perhaps the commonest. Like everything else, they too seem to regard the dead salmon as a source of food, for in many of those we shot the crop was full of maggots.

We halted for our mid-day meal on the banks of a little stream a few versts beyond Puschina, and while engaged in discussing our wonted dish of cold grouse a fine eagle flew over us, which we were fortunate enough to secure. It was only winged by the shot, and made such a determined resistance to our efforts to secure it, that we eventually had to give it the contents of another barrel. It proved to be a female Erne (*Haliaëtus albicilla*) in not quite mature plumage, measuring six feet eight inches across the wings. The crop contained the remains of salmon, and the bird smelt so atrociously from its prolonged fish diet, and was so fat, that the operation of skinning it was anything but a pleasant one. It was the first example we had obtained, but we afterwards found the species common towards the lower part of the Kamschatka River. The magnificent Pallas's Eagle (*Thalassoëtus pelagicus*) we did not meet with until we had reached the neighbourhood of the great volcanoes.

While we ate our meal we watched Verglaski, slow-moving

[1] This species is another instance of the tendency to white in the birds of this region. It has the extension of that colour on the wings characteristic of the Central Asian Magpie (*P. leucoptera*, Gould), but even more developed.

[2] The Teal were of two species—*Q. crecca*, and another, of which we did not preserve any specimens. It is, I believe, *Q. falcata* of Pallas.

and solemn as ever, occupying himself in securing his own dinner. He waded leisurely into the stream, just as a bear would, and stood placidly watching the water for his prey. He was evidently an old hand at the business, and would have sniffed disdainfully at any ordinary kelt. No miserable half-dead Garbusa, such as sledge-dogs are fed on, would have contented him. As a bear-dog, he felt such diet to be beneath him, and, like a true fisherman, looked out for the clean fish. There were not many of them, although the half-rotten corpses on the bank spoke of the numbers of salmon that had at an earlier part of the year frequented the stream. I cannot hope to convey to my readers any idea of the enormous multitudes that yearly visit the rivers of Kamschatka. Krasheninikov, writing more than one hundred years ago, says, "The fish come from the sea in such numbers that they stop the course of the rivers, and cause them to overflow the banks; and when the waters fall there remains a surprising quantity of dead fish upon the shore, which produces an intolerable stink; and at this time the bears and dogs catch more fish with their paws than people do at other places with their nets."[1] We had no opportunity of seeing the advent of the salmon, owing to the lateness of our visit; and the death of the fish is of course not due to the subsidence of the water, as he seems to imply. But that the rest of the statement is devoid of exaggeration we had abundant opportunities of proving. None of us, unfortunately, were ichthyologists, and the rapidity with which we were obliged to travel through the country, combined with difficulties of transport and the want of spirit and receptacles, prevented our preserving specimens. In the following paragraphs I have embodied my notes upon the salmon of Kamschatka with the statements we obtained from our hunters.

Every year the various kinds of salmon arrive at the mouths of the Kamschatkan rivers with surprising regularity. The date of the advent of these different species extends from May to mid-

[1] "The History of Kamschatka," translated by James Grieve, M.D., Gloucester, 1764, p. 143.

August; but each has its own time of arrival, which, from its constancy, appears to be more or less independent of seasonal influences. A few fish apparently remain at or about the river mouths during the summer, and eventually return to the sea, but these are so few as to be scarcely worthy of mention. The vast majority—practically all, in fact—ascend the streams to spawn, and, having once done so, die. In the case of some species every fish appears to perish; in others, to which I shall refer, a few get back to the sea.

The kelts of these salmon exhibit, though in a far more intensified degree, the changes that are noticeable in our own salmon after spawning. The jaws are prolonged and hooked, and the teeth much developed. The back becomes somewhat humpel—in one species enormously so—and the skin of that region so hypertrophied and spongy as to conceal the scales. Simultaneously the colour of the body surface changes, becoming livid or dusky, and blotched with red patches, or even entirely red. The flesh gets paler in colour and tasteless, and the whole aspect of the fish denotes its unfitness for food. As they ascend the river the salmon keep close together in large shoals, each fish keeping to the shoal of its own species and not mingling with others. Later in the year, after spawning-time, they of course become indiscriminately mixed.

During our visit to, and journey through the country, we met with at least six different species of the Salmonidæ in abundance. That there were others I am quite sure, but in the following list I have limited myself to noticing those only about which we personally obtained information:—

1. *Oncorhynchus orientalis* (Pall.)—Known to the Kamschatkans as the Tchervitchi, this fish is the king of the Salmonidæ both as regards size and flavour. On first arrival the Tchervitchi is silvery, the back and upper surface dark, and marked with dark spots, which also extend on to the dorsal fin and tail. The fish may have a length of four feet or more, and are rather broad: their extreme

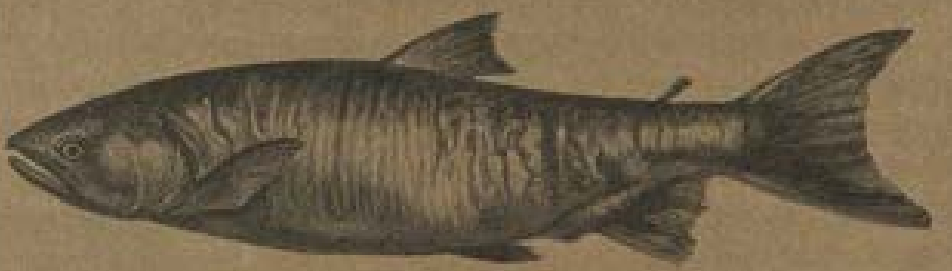
weight was given by Afanasi as "over two poods," which would be 72 lbs. We did not see any fish of this size, but a salmon, most probably of this species, was caught by the *Dido's* men in 1855, the weight of which is given by Tronson as 76 lbs. There is no doubt that they commonly run to as much as fifty or sixty pounds. The Tchervitchi is proper to the Kamschatka and Okhotsk Seas, apparently not being found elsewhere. According to Steller, it only frequents the larger rivers, and does not exist to the north of the 56th parallel. He gives the date of its arrival as April 20th for the Kamschatka River, May 10th for the Bolchaia-reka, and June for the rivers in Avatcha Bay. According to Afanasi, it comes up the Kamschatka River "early in May," and gets out of season in July. It certainly appears, as far as we could learn from the natives, to wait for some days at the mouths of the rivers before ascending them, which it does in shoals so large that, as Pallas tells us,[1] a little wave of water is driven up in front of them.

We did not meet with the Tchervitchi until we got to the Kamschatka River in early September. The inhabitants had then long since ceased catching them, and very few remained in the river. The balagans and drying-sheds were, however, full of them, and many seemed not to have been in quite clean condition at the time of catching. As a kelt, the fish becomes marked with red on the sides, producing a streaked appearance, and the rostrum becomes hooked, especially in the male, though apparently not nearly to the same extent as in the Garbusa and other species. From the time of entering the river the Tchervitchi is said by Pallas never to feed. We made no inquiries of the people as to this point, but they told us that a certain, though very small proportion of this species do not die, but manage eventually to regain the sea. The flesh is of a rather pale red in colour, and is esteemed by the natives above that of any other fish.

2. *Oncorhynchus lycodon* (Pall.)—This salmon is known to

[1] "Zoographia Rosso-Asiatica," vol. iii. p. 308.

Kamschatkans[1] as the Krasnaya riba or red fish, but the name is invariably shortened to Krasna. In shape and general appearance it resembles our own salmon. On its first appearance in the rivers it is silvery, the belly white, the back dark with a bluish shade and almost without spots. In length it reaches three feet or more, and large examples would, I should think, scale over thirty pounds. It is found in the Okhotsk and Kamschatkan seas, and extends across to the American coast.[2] In the peninsula it seems to frequent large and small rivers alike, ascending the streams about the end of May or beginning of June, later than the Tchervitchi, but before



KELT OF HAIKO. (*Oncorhynchus lycocephalus.*)

the Haiko and Garbusa. Towards the end of August the Krasna is completely out of condition. It becomes a bright red all over like a gold fish, and both jaws get prolonged and hooked, while at the same time the teeth are wonderfully enlarged. None of the fish ever reach the sea after spawning—at least so we were informed by the natives;—and as this species is one of the most plentiful of all the Kamschatkan salmon, their bodies strew the banks in nearly as great numbers as the Garbusa.

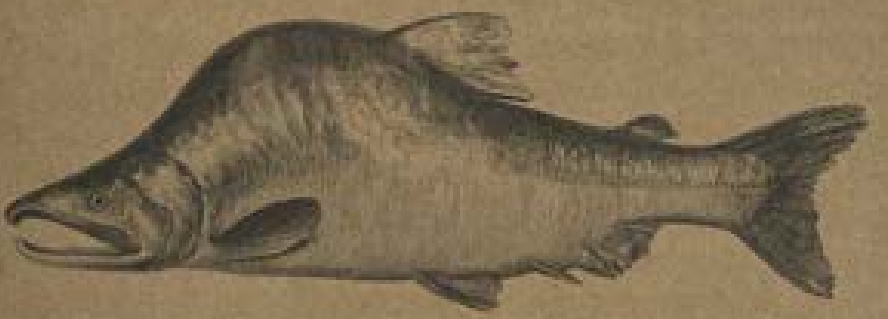
3. *Oncorhynchus lycocephalus* (Pall.)—The trivial name of this fish is given by Steller[3] as Kaiko, but we found it invariably known as the Haiko. It is not unlike the preceding species (*O. lycoodon*),

[1] I have here and elsewhere used this term comprehensively as "an inhabitant of Kamschatka." It should not be confounded with Kamschadals—the name applied to one of the original races inhabiting the peninsula.

[2] Steller, "Beschreibung von dem Lande Kamtschatka."

[3] *Op. cit.* p. 157.

the back being dark greenish, the sides silvery, and the belly white, but it differs in the greater bluntness of the rostrum and the pale colour of the flesh. It appears, as a rule, to run smaller than the Krasna: its area of distribution is said to be similar. It arrives at the mouth of the Kamschatkan rivers some little time after the Krasna and Tchervitchi, but its advent coincides more or less with the Garbusa or Hump-backed Salmon. About mid-July[1] this species ascends the streams, and is caught in great numbers. Later, the kelts show much the same changes as those of the Krasna, the jaws becoming much hooked; but they never acquire the deep and



KELT OF GARBUSA. (*Oncorhynchus proteus.*)

generally-diffused red of the latter species, that colour being usually confined to small patches on the belly and under surface. A species of bread is said by Kittlitz and others to be made of the Haiko, but we did not see it.

4. *Oncorhynchus proteus* (Pall.) is known to the inhabitants of the country as the Garbusa or Hump-back. On arrival from the sea this fish is said to be without any trace of the extraordinary development of the back from which it takes its name. It is without spots, except upon the tail—which is deeply forked—and is very silvery. It is said to frequent the rivers of the Okhotsk Sea and those of some of the Aleutian Islands, as well as Kamschatka. Roughly speaking, its length is from eighteen to twenty-four inches,

[1] I have also got "mid-June" in my notes, but I think the date given above is probably the correct one.

and its weight seldom above fifteen pounds. As a rule it is considerably less.

The Garbusa swims up the rivers in company with the Haiko, and is the most abundant of all the Salmonidæ in Kamschatka. According to Pallas, the hump begins to appear even before the fish has spawned, and is generally supposed by the natives to result from the efforts made in ascending the stream! Its enormous development in the kelts can best be realised by reference to the annexed illustration. Both jaws become hooked at the same time, more so, perhaps, than in any other species, and in consequence, in an old kipper the mouth does not nearly close. Until the death of the fish the gibbosity increases, and the colour of the body-surface becomes more and more livid and brown, the sides and under part being irregularly blotched with blood-red. The vast majority of this species die in the month of August, and though some few live till the middle of September, the natives told us that none return to the sea. The flavour of the flesh is said to be very good when the fish first come up the river, but the Garbusa is looked upon almost as the dogs' private property, and is not much eaten by the natives. In the balagans and drying sheds it invariably occupies the lowest tier of all. The female fish is described by Pallas as much smaller than the male, and very much less numerous; the hump does not become so largely developed and the mandibular hooks are absent or slight. We did not, however, meet with many individuals agreeing with this description.

5. *Oncorhynchus sanguinolentus* (Pall.) is the Kisutchi of the Kamschatkans. The clean fish is silvery, and devoid of red colouration, despite its specific name. The dark greenish-brown back is marked with rather large black spots, and the snout is blunt, becoming afterwards developed in a most peculiar manner. Pallas says that the largest measure three feet and weigh from ten to twelve pounds,[1] but it is evident that a fish of this length would weigh considerably more. Most of those that we saw towards the

[1] "Zoographia Rosso-Asiatica," vol. iii. p. 379.

lower part of the Kamschatka averaged, I should think, about twelve or fifteen pounds; the extreme weights, at a rough guess, being eight and twenty-five pounds.

The Kisutchi is the last of all the salmon to ascend the rivers. It arrives about the 10th or 12th of August, and in consequence is in good condition when most of the other species are uneatable. In the middle of September we found the majority of them clean fish, and it is not till the following month that they usually acquire the blood-stained tinge of the under surface, and the extraordinary snout to which I have just alluded. The latter presents a smoothly rounded protrusion about as large as a sixpence, over-hanging the lower jaw, and giving the fish a very comical expression. We learnt from our two hunters that the Kisutchi were caught until November, and Krasheninikov tells us[1] that they are found "during the whole winter in those springs that run into the Kamschatka from the south," which is possibly due to the fact that the water of some of these streams is warm. It appears to be a generally-distributed species, occurring in all the rivers of the peninsula. The flesh is very pale, almost white.

6. *Salmo callarix* (Pall.) is the Goletz or Gultsi of the natives. Krasheninikov says[2] that "the largest fish of this species, which lives sometimes five or six years, comes from the sea into the River Kamschatka, out of which it goes into the rivers that run into it, and by them to the lakes, where it grows almost as big as the *Chavitsi* (Tchervitchi), though it seldom weighs more than twenty pounds. They are found likewise very large in the Bistroy River; there their length is commonly twenty-eight inches, and breadth ten; they are of a dark colour,[3] have large teeth, and the lower jaw is crooked with a knob: it seems indeed of a different species. Those of three years old, which have been one year out of the sea, have a long head, are of a silver colour, with small scales, and

[1] "The History of Kamschatka," p. 148.
[2] *Op. cit.* p. 149.
[3] Steller also says, "auf dem Bauch und Flossen Zinnober-roth."

small red spots; and such as have been two years out of the sea are round and longish, with small heads; and their flesh, which is reddish white, is hard and well tasted. With regard to their size, the first year they are long and small; the second they grow more in breadth than in length; the third the head grows considerably; and the fourth, fifth, and sixth years their breadth and thickness increases greatly: in the fourth year also the lower part to the snout becomes hooked."

Pallas adds that "these fish enter the rivers from the Eastern ocean in great numbers . . . in order to hybernate, being still without spots. They are said to remain torpid during the winter in the

GORBUSCHA (*Salmo gallurio.*)

depths of rivers, in shoals of thousands, until at the return of spring they seek the sea again, from about the 10th to the 20th of May. They surmount cataracts of whatever height by leaping, and in the same manner escape from nets one fathom deep. They force their way into the Kuril Lake near the River Kamschatka,[1] notwithstanding a very high cataract, and hybernate in it in large numbers. Many remain for a long time in the rivers and lakes, but the greater number return in spring to the sea. When they come up from the sea they are without the red tint and spots, and shine with a silvery lustre; during the ascent they become gradually spotted with red, while they acquire a more or less red tint beneath the belly and on the fins, according to the comparative rapidity of the river currents."

Both the above accounts are very difficult to reconcile with that

[1] It is difficult to understand what lake is here meant. The Kuril Lake is at least 170 miles distant from the nearest point of the Kamschatka River.

given us by the natives of this fish. In the first place the Gultsi, as pointed out to us, was a long fish with somewhat rounded sides; the under surface of a most beautiful salmon-colour, the body marked with pink spots, and the back and upper surface dark greenish. The fish were in perfect condition, the coloration being evidently normal, and not due in any way to disease. To a piscatorial, though un-ichthyological eye they were Charr; a fish with which I was quite familiar in Lapland lakes and rivers,[1] but they differed in having the curious, upturned lower jaw to which I have already alluded.[2] The fish that Steller mentions, with their great breadth (depth) of ten inches, cannot well be of this species; and their migratory habits, and the fact that when they come from the sea they are "without the red tint and spots," is, I believe, opposed to what is as yet known of the life history of the Charrs. The natives distinctly told us that the Gultsi remains in the rivers throughout the year.

Two other species of salmon are mentioned by Steller as occurring in Kamschatka:—the Kundsha (*S. leucomœnis*) and Mykysha (*S. purpuratus*), but we did not meet with either of them.

Late in the afternoon we arrived at some open grassy pools, the head of a small affluent of the Kamschatka River. Mallard and teal were abundant, and having refilled our larder, we turned our attention to the numerous salmon that were splashing about in the shallow water. Whether owing to the fact that the stream was slightly warm or not I cannot say, but the majority of the fish were in better condition here than we had hitherto generally found them, and were in consequence less easy to gaff. After a few minutes' waiting we were, however, able to obtain our supper in the shape of two or three fine Kisutchi of from ten to fifteen pounds weight. Salmon is never eaten to such perfection as in camp-life, where the interval between its death and digestion is reduced to a minimum;

[1] In some of the lakes in Lapland the Charr grows to a very large size. I have seen one which scaled over fourteen pounds.

[2] *Vid. ant.* p. 99.

and whether boiled or fried in steaks, the fish has a delicacy of flavour that is rarely met with at a civilised dinner-table. But, of all methods of cooking it, one is pre-eminent in its excellence. Cleaned, split, and gutted, the salmon, which should be a small one, is impaled upon a Y-shaped forked stick, and placed half over the fire, so that it may be exposed to the occasional action of both smoke and flame. A certain amount of attention is necessary to see that it does not get too much of either, and care should be taken to turn it tolerably frequently. But if properly done—and, those who have tried it will bear me out—the dish is one fit for the gods, and loses nothing from the simplicity of the necessary apparatus.

We broke camp at noon on the following day, being within easy distance of Sherowmy, where we calculated on beginning our river journey. A heavy shower fell as we were striking the tents, wetting much of our baggage and our ornithological specimens before we could get them under cover, but the weather soon cleared, and we continued our march. Our long cavalcade proceeded in Indian file over the desolate and monotonous stretches of bilberry-covered open and stunted birch-thicket,—a type of country which, however exhilarating beneath a bright sun, is depressing to a degree under grey skies and driving rain. The wind held steadily from the west, however, and having made sure of the direction in which Sherowmy lay, we left the party, and turning our horses towards the river, devoted the remainder of the day to a search for bears. We had no sooner taken up our positions by the river-side than the wind shifted, fell light, and then shifted again, and all hopes of getting a shot vanished. Of there being bears in the vicinity we had abundant evidence, for the banks of the river were trampled in all directions with their fresh footmarks, among which it was easy to recognise those of an old animal of great size.[1] The

[1] Some of these Kamschatkan bears are enormous. One skin in my possession measures eight feet three inches in length, in spite of the greater part of the head being wanting.

remains of many half-eaten fish lay on the banks. The bears are said by Kittlitz and others only to eat the head and upper part when the salmon are plentiful, but in almost every case we found that, though the head had been crunched up, it had, together with the tail and intestines, invariably been rejected. We were never fortunate enough to witness these animals fishing, but we were told that they walk slowly into the water where it is about eighteen inches in depth, and facing down stream, stand motionless awaiting their prey. The incautious fish, swimming heedlessly up the river, doubtless mistakes the bear's broad legs for a rock or tree-stump, and those who have once witnessed the almost lightning-like rapidity of a stroke from Bruin's fore-paws will have no difficulty whatever in completing the drama for themselves. The fish is apparently always taken to the bank to be devoured, for even the small ones do not seem to be eaten whole.

Sherowmy, or Sherowin,—for the Kamschatkans are fond of clipping the exuberance of their words, and turn Kamakoffskaya into Kamaki,—is a pretty little village of nine houses and forty-three inhabitants, situated on a branch of the Kamschatka River close to its junction with the latter. To the south lie a few acres of level grass and land enclosed by rough fencing, which give a home-like effect and an air of permanence which is wanting in most Kamschatkan settlements; while to the west and north flows the river, its banks thickly clothed with trees. The people, although a more or less mixed race, as are those of all the villages we had hitherto visited, nevertheless exhibited strong evidences of their Kamschatdale origin, and the high cheek-bones and general duskiness of complexion were in some cases very noticeable. They were very civil and willing to help us; and later in our journey we learnt to hail the preponderance of the Kamschatdale element with pleasure, for we then felt sure of meeting with none of the surliness of demeanour and barefaced extortion that seemed to be the leading characteristics of the half-breed Siberian Russians.

We held a palaver with the Toyune, or head-man of the village, shortly after our arrival, and gave him a letter from the Ispravnik, desiring them to supply us with canoes and men, and to help us to the utmost of their power. He was probably unable to read it, as I afterwards discovered Jacof expounding it to him with great solemnity. I have no doubt, however, that the document lost none of its force in the rendering, for we were shortly afterwards supplied with some more cream in addition to that they had already sent us, and were informed that arrangements should be made for our start upon the morrow, as we desired. Much as we all wished to linger on our way, and to yield to the abundant temptations in the way of sport and natural history that the country offered us, we felt that we could not do so. We knew nothing of the length of the river journey that lay before us, and no one at Sherowny was able to give us any information on the subject. The signs of approaching winter had already begun to make their appearance. The woods were aglow with autumn colouring; the new snow had already freshly powdered the lower slopes of the mountains, and the clear frosts to which we now woke every morning warned us that we had better not delay. On board the yacht, which was to meet us at the mouth of the river, there was, of course, no means of knowing the date of our arrival, and to keep the ship knocking about a dangerous coast, of which all we knew was that it was unsurveyed and exposed, would be in late September or October a decidedly risky proceeding. We accordingly gave up the plan we had formed of remaining for a short time in the neighbourhood of Sherowny, and resolved to push on without delay.

CHAPTER VII.

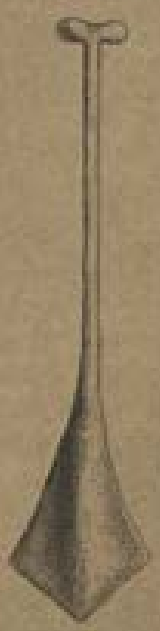
KAMSCHATKA *(continued)*.

We begin the river journey—Our rafts—Bad weather—Werchni Kamschatka—Meleova—A fish corral—Replenish our stores—Meleova church—*Kabbambas* and perils—Extortionate demands of the natives—Curious marl cliffs—Mashura—Rows with the people—Leprosy—Piles of driftwood—Onset of the cold weather—Tschappina—We sight the great volcanoes—Our camp-life—Wild fruits—Renewal quarrels with the natives—An awkward dilemma—We win the game.

On the morning of September 1st our horse-boys departed on their return journey to Petropaulovsky. Whether it is owing to the depression peculiar to the country, so enlarged upon by Kittlitz, I cannot say, but there seems to be an utter lack of geniality among these people. They took their wages resignedly, and bade us an unceremonious adieu. Handshaking—the kindly custom in Scandinavia and other nothern countries on the termination of an engagement between master and man—appears to be unknown in Kamschatka. Perhaps after all it was better, for I do not suppose that any of us felt any great degree of affection for Vodki, and at a later period of our journey, fist-shakings would have better expressed our feelings towards the greater proportion of the people with whom we were brought in contact.

Having despatched a letter to the yacht with instructions as to the date of departure for the rendezvous at the mouth of the river, we went down to the stream to make the necessary preparations for our voyage. The only species of boat used in the interior of the country is the dug-out canoe,—a clumsily-shaped craft made

from the trunk of the *topoyina* or poplar-tree. They are generally about twenty-five or thirty feet long, by two feet in beam and depth, and are made to a great extent by burning out the interior of the tree-trunk selected, the finishing only being done by means of axes. We were able to procure five of these boats, and by their aid constructed two rafts in the following manner. We lashed three together side by side, with an interval of about one foot between each, taking care to place the weakest in the middle, and on this foundation placed a platform of poles and axe-hewn planks amidships, for a length of twelve or fourteen feet. Over this platform we constructed a rough shelter-hut, with a birch-bark roof sloping away behind, and the back and sides composed of water-proof sheets which could easily be furled or removed when necessary. The other raft, which carried Louis, Cook, and our two hunters, was made in the same way, but without the hut; and owing to its having but two canoes as a foundation, was laden fully up to where its Plimsoll-mark should have been. Our natives sat at the head and stern of each canoe, wielding paddles with a spade-like handle. They were also provided with poles, the use of which, wherever the river was sufficiently shallow, they seemed greatly to prefer. Shortly before noon our preparations were completed, our men waved their adieux to the remaining three-fourths of the inhabitants of Sherowny, and pushing out into mid-stream, we began our descent of the river.



PADDLE.

Immediately below the settlement the branches of the Kamschatka reunite to form a stream nearly as wide as the Thames at Hampton Court, but scarcely more than a foot or two in depth. The current is rather swift, but without rapids, and the only dangers to be apprehended are the snags beneath the surface of the water. In the upper part of the river there are not many, but, lower down, the tremendous freshets which occur on the

melting of the snows carry down trees of large size, piling them in enormous masses upon the banks, and depositing the water-logged trunks in the shallower parts of the river, a collision with which would probably result in the sinking of the canoe, from the liability of these craft to split. We progressed with tolerable rapidity, averaging about six versts an hour, rejoicing that stampedes were now things of the past, and that there was at least a possibility of some of our possessions reaching the journey's end unbroken. The river in its earlier course is very winding, and Werchni Kamschatka, the next settlement we expected to reach, although only twelve versts from Sherowny by land, is more than six times that distance by river. As far as our own feelings were concerned, however, we would willingly have prolonged it yet more, for weather and scenery were alike lovely. The river ran between pebbly banks lined with birches, whose white-barked stems contrasted with the brilliant gold of their foliage. Reach after reach of still water opened out to us its quiet beauty, and here and there a little gap revealed a Hobbema-like scene of sunny distance, whose clearness was unbroken by the waver of a single leaf. Far away in front rose a range of deep blue hills, jagged and peaky, patched only with snow, for their southern slopes had been thawed by the heat of the summer sun. The calm surface of the water was covered by little packs of duck, which rose in long lines as our rafts approached, and the smoke of our guns formed miniature clouds in our wake which hung motionless above the stream until the rounding of a corner hid them from our view. We paddled on silently, our natives talking but little. Now and again the warning *na prawo, na lewo* (to the right, to the left) told of the neighbourhood of a snag, or a shallow bank necessitated the use of the poles; but for the most part our progress was one of uninterrupted quiet, and the laziest of Nature's lovers could have asked for nothing better than to sit and be paddled thus for the rest of his natural life.

We saw no four-footed game, with the exception of a couple of

yellow foxes (*Vulpes fulvus*), who sat inspecting us curiously as we floated down, and were none the worse for their temerity. According to our hunters, these animals are not nearly as common now as formerly, though from what reason it is difficult to say, as the skin is of no great value, and they are in consequence not much hunted. Ducks of the kinds I have already mentioned were in great numbers, and the Merganser (*M. serrator*) also seemed fairly abundant. It was of course impossible for us to reach Werchni Kamschatka before nightfall, so, having made about forty versts, we landed on one of the broad pebbly beaches, where the spring freshets had already collected abundant firewood for us, and pitched our camp. The Sherowny men had a simple but effective plan of cooking duck that I had never seen before. The bird is plucked with care, so as to leave the skin unbroken, and is not drawn. A stick is forced down the throat, and the other end stuck into the ground close to the fire. The effect produced when a party of a dozen are thus cooking their suppers is not a little absurd: it is as if the camp-fire had burst into a perfect girandole of naked ducks, who fly quacking from it in open-mouthed alarm.

We had hitherto been favoured with far finer weather than that usually to be expected during late autumn, but the next day dawned threateningly, and before long fulfilled its promise to the utmost. A pall of thick leaden clouds with ragged edges hung over us, and a steady downpour that showed every prospect of continuance soon commenced. Hour after hour we paddled on through the driving rain, and it was not until after mid-day that we stepped ashore, wet and cold, at the hamlet of Werchni Kamschatka. Like most of these places, it is composed of a bare dozen of huts, with a total population of less than fifty souls; but it enjoys the distinction of being the only settlement on the Kamschatka River that is marked on the English chart of the country. In bygone days it may have merited it, for it was one of the first *ostrogs* established by the Russians after their conquest of the

THE KAMSCHATKA RIVER AT MELCOVA. Page 130.

peninsula. Now, however, Meleova must be regarded as the chief town of the interior, and its proximity—for it is only fifteen versts distant—must always effectually keep its rival in check. We were glad to get warm and partially dried at the house of the head-man before starting again for this latter place. Some few signs of cultivation were apparent: a few potatoes and turnips, and a small field of rye, the first cereal we had met with since our arrival in the country. It looked miserable enough under the pouring rain, and probably had little if any chance of ripening.

Three more hours of rain and paddling brought us to Melcova. It was almost too wet for shooting, but we noticed two or three small parties of the red-necked Phalerope (*L. hyperboreus*) on our passage. Those that we obtained were in autumn plumage, and were most probably on their way to warmer latitudes. But few duck were to be seen. They had in all probability betaken themselves to the marshes at the onset of the rain, and the river was devoid of life. Before reaching the village an elaborate arrangement of fishing-stakes gave warning of the presence of what in Kamschatka may be termed civilisation. The stakes stretched right across the stream from bank to bank, but we found a small gap at the side sufficient to admit of the passage of a single canoe, and capable of being still further enlarged by pressing down the stakes. The arrangement for taking the fish consisted in the construction of small *curruls* at intervals of about fifteen yards. These were long bottle-shaped baskets on the lobster-pot principle, furnished with doors opening at the lower end, by means of which the fish could be secured by gaff or otherwise. We learnt that there were very strict rules with regard to the complete barring of the river at this spot. The inhabitants are obliged to leave a free passage for the fish at the time of their first arrival in the spring, and also on certain days in the week or month at a later period. But for this arrangement the people of Sherowny and Werchni Kamschatka would of course be without means of subsistence during the winter months.

The head-man of the village received us on landing—a person of far higher class than any we had hitherto met, and apparently of unmixed Russian blood. He was the keeper of a small store, and owned a capital little log-built house, which we found uninhabited, and apparently intended for the reception of passing travellers. This he at once placed at our disposal. Tired and wet as we were, the prospect of pitching camp in a sea of mud was not a pleasant one, and breaking through our usual rule, we accepted his offer with pleasure. Before long we were enjoying the unaccustomed luxury of a chair, and were able to skin our birds in tolerable comfort for the first time since leaving Petropaulovsky.

Melcova owes its origin to an experiment. With the view of encouraging the cultivation of the land and of making something more of the country than a mere hunting district, where the inhabitants caught enough salmon during the summer to enable them to go after the sables in the winter, a small colony of Russian peasants were settled here in 1743, who were to devote themselves entirely to agriculture. The result has been to a certain extent successful, for the community is a tolerably flourishing one, and with its population of over two hundred, is the most important settlement in Upper Kamschatka. It may, nevertheless, be doubted if the cultivation of the land has contributed to any great extent to its success, for, from the severity and uncertainty of the climate, the prospects of the farmer are as little encouraging here as they are anywhere, and there are probably the full average of sable-hunters in Melcova. But there are small fields and gardens, and a number of cows, which combine to give the place a more home-like and settled aspect than is usual in most Kamschatkan villages.

A great portion of our own interest in the place centred, I must confess, in the store. Here, in a space of about twelve feet by eight, we found flour, tea, sugar, candles, axes, and a few odds and ends for sale, but there were no sables or other furs as we had hoped. We had run short both of tea and sugar, and were

glad to be able to get them. The so-called brick-tea is, of course, the only kind in use here, as in other parts of Siberia. It is made in cakes about ten inches by five, and three-quarters of an inch in thickness, squeezed flat by hydraulic pressure, and stamped with large Chinese characters; and were it only of better quality, it would be admirable for rough travel from its portability, and the impossibility of its becoming spoilt by wet. Brick-tea is to a Kamschatkan what coffee is to a Lapp. It is found in the very poorest and most miserable hut, and is regarded as just as much a necessary of life as tobacco. That sugar should also be highly esteemed by the natives is only what might be expected in these latitudes, but its price places it beyond the reach of most. We obtained some at the rate of eighteenpence a pound, but when Dobell visited Kamschatka in 1812 it was sold for as much as five roubles.

Melova boasts of a resident pope and a church; the latter a log-built edifice, which was moved many years ago from Werchni Kamschatka. It is not ornamental, and is painted red on one side only. The pope received us at the porch, and showed us the interior with evident pleasure; while we, as in duty bound, did our best to assume the necessary air of charmed approval. It must be confessed that it was no easy matter, for the building was completely bare inside, and the walls were covered with English bedroom paper of the commonest kind, set off by an occasional breadth of another pattern, in which pink roses on a bright blue ground displayed themselves in the full atrocity of the early Victorian epoch. Over the altar were a few oil-paintings of saints, one or two of which were passably good.

In the same inclosure as the church, but apart from it, as is the usual custom, stands a little square belfry containing seven bells of peculiarly sweet tone. One is inscribed with the date 1761; the others are more recent. The church itself, we were told, was so old as to be beyond repair, and another one was in course of erection close by, the logs of which were of very large size. The

whole of the labour and material necessary for its construction was being gratuitously given by the inhabitants. I am obliged to record the fact that the building did not appear to be progressing with very great rapidity.

The weather of the previous day showed little signs of improvment. A biting wind with rain and sleet at intervals made us not sorry that we had settled to take a Sunday's rest here. Some fifteen miles or so to the eastward is a fine range of mountains about five thousand feet in height, which the downpour of the day before had covered to the lower slopes with fresh snow. Here and there a passing touch of sunlight fell upon the peaks and threw them out in bold relief against the leaden sky. But, late and cold as it was, the fishing had not ceased, and by the river-side they were cleaning and preparing Kisutchi—the latest salmon that visits Kamschatkan waters. Numbers of the King Salmon (*O. orientalis*) hung drying in the balagans; many of very large size. The current of the river is rather swift here and at Werchni, and we learnt that it does not usually freeze completely over until the end of January. It would seem as if the severity of the frost were never very great until that month. The snow invariably falls throughout the country in October, or even earlier, but it is seldom fit for sledge-travelling until November.

While at Meloova we tried to get some of the reindeer-skin dresses of the country, as we had already felt the cold considerably in European clothes, and knew that at this season the thermometer would sink steadily from day to day. They had none for sale in the settlement, and we had to send over to Werchni Kamschatka for them. These dresses are of two kinds, the *kukhankas* and *parkas*, and are merely loose sacques composed of pieces of reindeer-skin beautifully dressed, and sewn together with thread made from the sinew of the animal, just as are the "karosses" of South Africa. They are provided with a large bearskin hood, and are put on over the head without fastening of any kind. The rest of the costume is composed of a pair of breeches of like nature, and boots almost

exactly resembling those in use in Lapland,—made of soft leather throughout, the sole included. The toe is slightly turned up, probably to keep the feet in place when in snow-shoes, and the

OUR COSTUME ON THE LOWER KAMSCHATKA.

boot is tightly stuffed with fine hay, which is intended to supply the place of stocking and sole combined. The *kuklanka* is merely a double *parka*, having the fur both outside and inside.

On the morning of the 4th September we left Melcova and

resumed our journey down the river. We had hitherto only been able to buy one canoe, and in consequence were in need of four others with which to make our rafts. These they refused to sell us, but offered to lend them, together with men to take us on to Mashura, the nearest settlement, for fifty roubles! The silver rouble being nearly three and sixpence, and the distance only sixty versts—rather less than forty miles—we at once refused, regarding the demand merely as one of the common incidents of bargaining, and expecting it very soon to be considerably reduced. We were rather astonished that there was no sign of anything of the kind, and after waiting some time we had ourselves to return to the charge. In vain we threw the Ispravnik at their heads: we had a discussion of an hour and a half's duration, which at last ended in our agreeing to pay forty roubles, but under protest. At the same time we informed them that we should lay the matter before the Ispravnik on our return to Petropaulovsky.

It was two or three hours after sunrise before we got fairly under way. The weather was gloomy and cold, but with the exception of one heavy shower, we escaped without much rain. Shortly after leaving Melesova the character of the river scenery changes. For the first time on our journey we noticed the pine and spruce, and welcomed them with pleasure, as a relief from the wearisome monotony of poplar, birch, and alder. Here and there curious mud cliffs bank in the stream; often eighty feet or more in height, and nearly perpendicular.[1] The men begged that we would not fire while passing under them, lest a landslip should occur; and apparently with reason, for the soil appears to be constantly crumbling away, and little cascades of dust poured unbrokenly from the face of the banks as we paddled beneath. In one place we noticed a chalybeate spring welling up close to the water's edge, while others of pure water seemed abundant at the base of these earthy cliffs.

[1] These banks of reddish marl, known by the name of *yar*, appear to be not uncommon in Siberia. The town of Krasnojarsk on the Yenisei is thus named from their existence in the vicinity.

Losing sight of the range near Melcova no more mountains are seen, and Mashura, a village of fourteen houses and eighty-eight inhabitants, has but little to recommend it in the way of scenery. Excepting at the settlements no boat is ever met with, and voyaging on the Kamschatka is regarded by the natives as an affair of some moment. Our approach was accordingly heralded by numerous discharges of blank cartridge from the guns of our raftmen, and as we stepped ashore shortly after sunset we found the head-man awaiting us, together with a considerable proportion of the inhabitants. Anxious to prevent a "ring" between them and the men we had brought from Melcova, we approached the subject of canoes for our further journey as quickly as we could. But we had been anticipated, and we began to see that henceforward extortion was to be the order of the day in every case in which we were brought in contact with these people. They refused to sell us canoes, and demanded sixty roubles to take us on a distance of as many versts, —a rate which would have left us with empty pockets before we had got half way down the river. For a small birch-bark jar of milk they asked half a rouble, and charged in like proportion for other articles. In these cases, however, our line of action was simple. We took the things at once, placed them inside the tents, and paid what we considered the proper sum. They refused the money, and when we turned in for the night without having come to any definite settlement for the following day, the relations between us had become considerably strained.

Mashura was, in bygone days, one of the largest Kamschatdale settlements in the centre of the peninsula, but smallpox—the disease so fatal on its first introduction among uncivilised nations—broke out in 1767, and ravaged the country to such a frightful extent that it is said to have killed nearly three-quarters of the natives, and the village has since dwindled down to its present insignificant size. The people were short, but strong-looking men, with scanty beards and straight hair, which was either light or dark, according to the preponderance of Russian or native blood. Most

of them were clothed in leather breeches and the boots I have already described, with the ordinary loose blue shirt of the Russian peasant, but some had already commenced to wear the *parka*. These are not all of reindeer, which is not a common animal except among the Koriaks, but are also made of bear and dog fur, although the dogs are not grown for the purpose, as is the case in Lapland.

If leprosy be in any way connected with a diet in which fish is one of the chief constituents, as is by some supposed to be the case, in no country in the world should it be more prevalent than in Kamschatka. Dr. Dybowski had assured me that it was very common, and had shown me photographs in which the expression of the disorder appeared identical with that unfortunately so frequent in Norway. But the only case which came under our notice was at this place, and since the sufferers do not appear to be secluded in any way, it is only fair to conclude that, in the interior of the country at least, the disease cannot be very prevalent. Syphilis is, unhappily, very general, but its effects are now far less terrible than on its first introduction.

We paddled merrily down stream in spite of the still unsettled arguments as to the price we were to pay our men. Below Mashura the pines become more numerous, and the perpendicular mud cliffs are a characteristic feature of the river. Beneath these we found the depth of the stream to be often as much as eighteen or twenty feet, but the mean depth is probably not more than half as great. Huge piles of driftwood block the banks of every low promontory, and testify to the enormous force and volume of the stream upon the breaking up of the ice,—a phenomenon which can dimly be realised from the wonderfully graphic description of Mr. Seebohm in his "Siberia in Asia." Owing to the increased depth of the water, snags became less frequent and navigation easier; but the size of our rafts prevented us from making more than five versts an hour, a rate that our log, frequently heaved and with corrections applied for the current, told us to be fairly constant.

Hitherto we had been able with the greatest ease to shoot as

many duck as were daily required for our party. At this part of the river, however, there were much fewer, but the birds of prey had considerably increased in numbers. The Ernes (*H. albicilla*) and Hobbies (*H. subbuteo*) were most common, and we procured a fine pair of the former. Neither of these species was shy, but it was only with considerable difficulty that we were able to get within shot of the Ospreys, which we found hawking the river in pairs, but less abundantly. We also shot a specimen of the Red-throated Diver, but our ornithological collection progressed but slowly, the number of species presenting themselves being extremely limited. In spite of the apparent absence of fish—for here but few lay dead upon the banks—the spoor of bear was as plentiful as ever, and an occasional one was more than once visible as we floated down. But unfortunately our journey had now resolved itself into a race against time, and delay was out of the question.

We broke camp long before dawn on the morning of the 6th September, and were afloat once more at 6.30 A.M. The morning was fine, but bitterly cold, and as the sun rose, the trees and long dank grass, glittering with the thick hour frost, presented a rather more wintry scene than we desired. We were glad enough to seize the paddles and get what exercise was possible, and after two or three hours' sharp work we arrived at a bend in the river where a birch-bark hut and two or three canoes appeared to indicate the neighbourhood of a settlement. Not a soul was to be seen, but we learnt that Tschappina—a little hamlet of six houses—lay some five or six versts distant from the river, and at once despatched Afanasi to get what men he could. In three or four hours he returned, accompanied by four natives, but only two canoes were fit for use. The Mashura men, after some talking, offered one of theirs for the modest sum of forty roubles, and after half an hour's wrangling, we eventually became the purchasers for thirty. Its actual market value was less than ten, but we felt that if we could only get two more, we should be entirely independent of the natives, and considered it cheap. A further row then took place with

regard to the price to be paid for the distance we had already gone, and when we eventually got off we discovered that we had lost five hours and a certain amount of temper to boot.

We floated silently down stream for a couple of hours or more, thinking over the discussions that, we knew only too well, would be renewed at the earliest opportunity, when, turning a sudden corner, we found ourselves face to face with a view that banished all thoughts of past and future annoyances in a moment. Before us, eighty miles or more away, stood one of the grandest groups of volcanoes in the known world. Others there are, it is true, that are higher, although in most cases the elevation of the ground from which they take their rise detracts in no little degree from their apparent height. But here, from a base elevated scarce a hundred feet above the sea, a series of cones of the most exquisitely-symmetrical shape rose in heights varying from twelve to seventeen thousand feet. They were three in number. Nearest us was Tolbatchinska, dog-toothed in shape, with its apex on the western side, a long thin puff of white smoke drifting from its shoulder; and beyond, apparently in close proximity to one another, rose the twin peaks of Kojerevska and Klutchefskaya, perfect in their outline, —pyramids of the purest snow, before which one felt how poor was all language to express the sense of their perfect beauty. Snow mountains were no novelty to us. We had seen the Andes and the Alps, and had watched the sun rise on Cotopaxi, on Etna, on Fujiyama, and a dozen other mountains of equal note. But here all questions of comparison would have been a sacrilege, and floating noiseless over the unruffled surface of the river we sat spellbound, drinking in the view. The sun sank slowly as we crept along, and slope and peak, at first a dazzling white, turned slowly to a glowing gold. On either hand the fast-approaching night had changed the glories of the autumn tints to a sombre shade of violet, and behind us the river was a mere streak of light. The bright glow of the fire upon the other raft lit up the bearded faces of our Russian guides around it, and when the daylight had

fairly waned, the head of Kluchefskaya stood out a pale greenish white,—a spectral mountain against the fast darkening sky. Come what might, even if we were never again to get a glimpse of them, we had seen the great volcanoes, and we felt that the sight was one that we should not easily forget for many years to come.

Constant practice, together with the "division of labour," had by this time rendered the pitching of our camp an affair of a few minutes only. Pressed as we were for time, we had to continue paddling until it became too dark to see the snags or sunken rocks ahead. The rafts were then run ashore at the nearest beach and the site for the tents selected. In this we had the choice of two evils—the rough ground and rank vegetation of the forest above, and the stony or sandy beach by the water's edge. We always chose the latter, owing to the difficulty of clearing the forest, but it must be confessed that the greater cold and damp of the river-banks almost outweighed their advantages. The cooking of the dinner, which the indefatigable Spiridione had nearly completed on the raft, received its finishing touches at the new fire, and almost before the tents were pitched the usual menu awaited our approval. It was not a varied one certainly, but it was the most luxurious I have ever experienced in camp-life. Soup *à la chasseur*, boiled salmon, stewed capercailzie or grouse, teal *à la* Kamschatdale, bilberry jam, and tea or coffee form a very respectable meal for a traveller whose appetite has been sharpened by the keen air of a northern autumn; and it was but seldom that we failed to do justice to it. And when the journals had been written up and the birds skinned, and we smoked our last pipe at the enormous fire before turning in, we felt that, but for the natives, Kamschatka was as pleasant a country for camping as we had ever experienced.

We were usually afloat again before six o'clock, but our departure was somewhat delayed on the following morning by the unintentional cold bath of one of the members of our party. It is doubtless something of a surprise to the system to find oneself at

early dawn, with the thermometer below freezing, struggling in an icy river with all one's furs on, but the unlucky bather was soon ashore, and a sharp rub-down at the camp-fire soon restored both his circulation and his equanimity. The day was once more bright and clear, and the distant peaks looked magnificent in the morning sun. As we drew nearer, the mountains opened out, and the western slopes of Tolbatchinska no longer hiding Kojerevska, the latter volcano appeared, from this point of view at least, as a perfect cone of regular shape, which half concealed the equally regular and still higher peak of Kluchefskaya, the king of the volcanoes of Kamschatka. Other mountains too had come in view. To the north and west of Kluchi,[1] but in close proximity to it, the smoothly-rounded summit of Uskovska rose above the dark line of forest, and far away to the eastward two isolated and nameless cones of graceful shape appeared on the horizon, which, in spite of their eight or nine thousand feet, are recorded in no map.[2]

At this part of the river the conspicuous marl cliffs disappear, and the pines are replaced by aspens, a tree of which we had hitherto seen but little. Landing in the afternoon to take photographs and observations, we came upon quantities of the *cherimka* or wild cherry. The fruit is black, and of the size of a large black currant; very sweet, but with a peculiar sloe-like astringent after-taste. The delicious Scandinavian *wolteberr* we did not meet with, but our common raspberry and red currant are in some places plentiful. The latter fruit is, in our English gardens, scarcely worth eating, but in the wild state it is very sweet and palatable.

Eleven hours' steady paddling brought us, at 6 P.M., to three deserted balagans, without fish, and with nothing to indicate the presence of a human being save four canoes hauled high and dry upon the bank. We learnt that Tolbatchik, a village that we

[1] To the natives, with their love of contractions, the great mountain is thus invariably known.

[2] These we have since named Mount Gordon and Mount Herbert Stewart.

expected to find here, is not situated on the Kamschatka, but upon a tributary stream which joins the main river some forty versts lower down. There is a short cut overland, however, and we settled to camp and despatch Jacof Ivanovitch to the village at daybreak on the following morning for a fresh relay of men. Close to the camp we shot a large blue hare, the pats of which were very much developed, and clothed with the thickest fur. This, curiously enough, was the only one we met with during the whole journey. The sunset was strikingly beautiful. The eastern sky was a deep purple, and the snowy peaks so bright a rose-colour, that no painter would have dared to transfer them to canvas. But the appearance of the weather was unmistakeable, and we set to work at once to dig deep trenches round the tents in anticipation of the coming rain.

The morning broke as we had foreseen. The wind had shifted to the south, and the rain descended with a steadiness that boded a long continuance. The dull leaden sky reminded us of our native land, and the heavy mist seemed to render even the inside of the tents almost as wet and chilly as the sopping grass without. The natives had retired to their tent, and Verglaski alone, slow and imperturbable as ever, seemed unaffected by the weather. Jacof had started early for Tolbatchik, and there was nothing to be done until his return. We went in search of birds, either for preservation or the pot, but hardly a living creature was to be seen, and a hobby, an owl (*Surnia ulula*), and a small thrush (*T. fuscatus*, Gm.) were the only specimens we obtained. The afternoon, however, was relieved from dulness by our natives, though in a manner that was anything but agreeable, for we found ourselves involved in a renewal of the endless wranglings and discussions of which we had already had more than enough. The Mashura men applied for their money, stating that they wanted to return. Four of them had gone back at Tschappina, but the other four had come on with us, and to these we tendered a sum exactly proportionate to that they had already received for the first part of their journey. This,

with a very offensive manner, they refused to take, and after some discussion among themselves, retired again to their tent. The conduct of these men had been anything but agreeable in every particular. They had always refused to help us in any way with the ordinary work of the camp, such as getting wood or carrying the baggage from the rafts; and on our sending Afanasi in the morning to cross the river and inspect two canoes upon the farther bank, they would not lend him one of their boats unless he paid them something. We also discovered that the canoe which we had bought from them only two days before had been split from stem to stern,—though whether by accident or design it was impossible to say,—and would probably prove quite useless after a few more hours' work.

After some more discussion in their camp—for the natives always pitched their tent at some distance from ours, and held no communication either with ourselves or our two Russian hunters unless it was absolutely necessary—the Tschappina men now appeared in a body to say that they must be paid for the distance they had already accomplished, or they would not accompany us any farther. This was a most transparent ruse, and we at once flatly refused their request, knowing that if we gave up our only hold on them, we should not be able to obtain their canoes for the farther journey, except by yielding to demands even more exorbitant than those they had already made. Our position was not a very pleasant one. We were getting anxious about the yacht, as the distance down the river proved to be considerably greater than we anticipated, and even if we got on without further delay, it seemed probable that we should still be some days late. Our stores were getting rather low, and the weather, we knew, would not hold much longer. Yet here we were, in the very middle of the country, and as far as regarded our means of transport, completely at the mercy of the natives, who were perfectly aware of the strength of their position, and were using it to bleed us to the last kopeck. Had time been no object to us, we might, no

doubt, have constructed a couple of tree-trunk rafts of sufficient buoyancy to float our baggage, but here there were no pines, and as we had but little rope, we should have had to make use of willow fastenings. It would have cost us five or six days' hard work, and grudging almost every hour of delay, we only looked upon it as a last resource.

In the evening Jacof's dripping form appeared at the door of the tent, where, as philosophically as we could, we sat skinning a very fat and extremely fishy eagle. He had brought four men with him. We had thus natives from no less than three settlements in the camp: from Mashura, Tschappina, and Tolbatchik; and as we got under our reindeer-skins for the night, it was with the feeling that at least there was abundant material for a very pretty row upon the morrow.

We were up early, anxious to get the affair over as soon as possible, for we had settled on our line of action, and had no intention whatever of yielding a single kopeck. The ball was opened by the Mashura men, who again claimed an exorbitant sum. We replied by once more making our original offer, which they refused. They had, it appears, made arrangements with the Tschappina people, and thinking that by their co-operation they had got us in a corner from which there was no means of escape except by our yielding to their demands, they took to their canoes and paddled away, doubtless thinking that before long we should be obliged to send after them. The Tschappina men were still talking among themselves, when a fresh difficulty arose with the four new-comers from Tolbatchik, who demanded to know what we were going to give them. We told them that one rouble per diem was our settled pay for each man, counting three days for every one day in order to allow for the return journey, but in this case, as the work would be harder, we would give a rouble and a half. This offer, which was in reality far more than they ought to have had,—for six shillings a day is, it must be admitted, very tolerable pay,—they refused, but eventually agreed to go as far as

the hamlet of Kojerevsky, which, according to them, was over two hundred versts distant, for the sum of seventy-five roubles.

The Tschappina men now returned to the charge, but we cut short all discussion by telling them that if they did not accept our terms, and prepare to come on with us without delay, we should not pay them a single kopeck for the distance they had already brought us. Our ultimatum was, however, of no effect, for they felt quite secure of us, having no idea of the plan we had resolved on; and accordingly they retired to their tent to sleep away the rest of the morning, until we had made up our minds to yield.

We had, nevertheless, one trump card left. It was after all but a poor one, but we determined to see what could be done with it. We had four canoes at our disposal, two belonging to our Tolbatchik men and two to ourselves. Of the first, one appeared to be in good condition, the other was patched and leaked in all directions, and our own craft were in still worse condition. The split one was expected to founder at any moment, and the other was so old and rotten that we could in many places push our fingers through it. Our plan was to lash all four together, and on the raft thus constructed to pack our party of eleven men and all our baggage. We worked with a will, and in a couple of hours the affair was finished. In point of security it was, perhaps, not all that could be desired, and contact with a snag would no doubt have placed us in no very pleasant predicament, but we were thankful to find that it held together and was capable of supporting us. We had won the game after all.

We pushed out into mid-stream and shouted a sarcastic good-bye to our enemies. It must have been a bitter moment for them as they emerged from their tent and saw their legally-earned, as well as their prospective, roubles rapidly disappearing from their view, and we forgave them the harmless curses they bestowed upon us. They were wise enough not to resort to stronger measures, although all were armed, and in another minute or two we

rounded a corner, and the scene of our late squabbles was lost to sight. In justice to ourselves I should add that we deposited the money actually due to these men with the Ispravnik on our return to Petropaulovsky, but I believe that we should all have been glad to think that they never got it.

We had patched up our canoes as well as we were able before starting, and were glad to find that they made but little water, although the large, and as we had supposed, sound one, proved after all to be quite as leaky as the others. The weather, which had been gloomy and threatening, now showed some signs of improvement, and our spirits rose with the more promising condition of our surroundings. The size of our raft was against fast travelling, but we paddled steadily on, and had made forty versts before camping for the night. At 6 P.M. we passed the mouth of the Tolbatchik River, coming in on the right bank; a tolerably deep stream with a breadth of about thirty yards at its junction with the Kamschatka. We held a consultation as to the possibility of going on all night, but the cold was so great and the passage down the river so risky from the snags, that we eventually decided against it. An accident to our raft in its present state would have been something more than a misfortune; it would have meant little less than absolute disaster.

CHAPTER VIII.

KAMSCHATKA (*continued*).

Morning on the river—We begin the chart—Meet the first and only traveller—Bear-paths—Land and river birds—The Kamschatkan Marsh Tit—Kojerevsky village—The Kanuli, or Spirits of the Volcanoes—Increased coldness of the weather—Uskovska—Fox-trap—Misfortune to our photographic plates—Sunset on the mountains—The great volcanoes of the Lower Kamschatka—Klutchefskaya and its eruptions—Sevelitch—Eruptions synchronous with Krakatau—A professional brother—Cultivation at Klutchi—Loss of Verghaki—Kamakoffskaya—The Tchoaki—Walrus-schooner *Nerpa*—*Phalacrocorax pelagicus*—We arrive at Ust Kamschatka—A Kamschatkan dance—We rejoin the *Marchesa*.

OUR journey of the previous day had made a very perceptible difference in the appearance of the great volcanic ranges we were approaching. When we pitched camp it had been too dark and cloudy even to catch sight of them, and the uncertainty of the weather rendered it more than probable that we should never have another opportunity of seeing the peaks in the cloudless magnificence in which we had been fortunate enough to sight them for the first time. Before starting on our journey Dr. Dybowski had cautioned us against being too sanguine in this respect, warning us to take photographs whenever the slightest chance presented itself, and adding that he had been a fortnight at the base of Klutchi without ever catching a glimpse of it. We were destined, however, to be far more fortunate. The camp was astir long before dawn, and as the first blush of light appeared in the east, we looked up, and lo! almost over our heads, as it seemed, there stood the mighty peaks of Klutchi and Kojerevska, ink-black against the morning

sky, their shoulders shrouded in a thick mantle of cloud. An impenetrable dark mass to our right showed us the position of Tolbatchinska, as yet unroused from his slumbers by the dawn; and as we sat drinking our morning coffee at the fire, and trying to get some warmth into our limbs before starting, the day broke, and the dense fog over the river moved uneasily before the faint puffs of the morning air. We were soon afloat, and at first the wall of vapour shut out all but the nearest objects from our sight, but as the sun rose and projected the huge shadow of the mountains over the country far ahead, the mists vanished as if by magic before its warmth. Only the icy dress with which they had clothed each leaf and twig remained, lending an unwonted beauty to every common object and a yet further grace to the drooping foliage that overhung the river. The breeze of the early morning had died away, and Nature seemed frozen into silence. Aspen and birch alike were as still as death. But every bough sparkling with the hoar frost, each grass-blade glittering in the sun, was an argument against Kittlitz's "*niedergeschlagenheit*" that was not to be overcome. Even Afanasi seemed insensibly to be affected by the beauty of the scene, and crooned some quaint and fitful song beneath his breath as he wielded his frosty paddle.

Ah! those mornings of the far north! Does not the current of our blood, thickened by the fogs of a London November, or languidly pulsating under the sweltering heat of a tropic sun, quicken at the very thought of them? Do we not all feel young again as we recall the sound of our footsteps ringing on the frozen ground, and picture the wondrous beauty of the combination of pine-tree, sunlight and snow? The difficulties and worries of life are forgotten; we are content with the mere pleasure of actual existence, and morally, as well as physically, we are better men. No morbid introspection, such as is begotten of the more sensuous beauty of warmer climes, is possible under such circumstances. We have all of us, I suppose, some pages in the past history of our lives to which we do not care to turn. But here they are as though they

were not. Hope, action, content, have come to us in place of the profitless regret of the past, and life is once more before us with as fair a promise as it held out in days long since forgotten. I have neither the wish nor the ability to describe the scenery of the Kamschatka River and its great volcanoes. In these days of carelessly-used superlatives it is best left alone. But the memory of it will always remain with me,—the memory of scenes far more beautiful than anything I had conceived possible.

Our observations had hitherto been of a rather disconnected character, but at this period of our journey we commenced a rough chart of the Kamschatka, which we continued for a distance of over two hundred miles to its mouth. As this involved the recording of the exact length and direction of every reach of the river, which, it should be added, was conspicuous for the multiplicity of its windings, it may be imagined that the task was one requiring no little trouble and attention. Soundings of the river were taken from time to time, together with observations of the various peaks and their bearings; and, at the end, we found ourselves in the possession of sufficient data to construct a plan of the Kamschatka and its neighbouring volcanoes from Kojerevsky village to the sea.

We paddled on without incident for some hours, when, rounding a corner, we came upon a canoe—the first that we had met since starting on our river journey at Sherowmy. It contained a young man of what, in Kamschatka, might be termed the upper class of society. He was "three days out" from Kluchi, and was bound for Meloova. We ranged our raft alongside and exchanged greetings, and we learnt from him that we should be able to reach Kojerevsky that night without difficulty. It was thus evident that our Tolbatchik men had, in plain words, lied to us about the distance, as it was of course impossible for us to go two hundred versts in less than two days. The character of the half-breed Siberians in Kamschatka is more contemptible than that of any other natives with whom I have ever been brought in contact, and our oft-recurring feuds with them

C. A B. E. F. G.

Plan of part of the
KAMSCHATKA RIVER
by
LIEUT. R.W. POWELL R.N.
and
LIEUT. [illegible] R.N.
[illegible]

during our river journey nearly spoilt what was otherwise a very pleasant expedition.

We landed for a meridian altitude, and improvised an artificial horizon by means of a bucket of water. The banks were low and flat, and frequently intersected by muddy creeks, while the birches and firs had almost disappeared, giving place to the willow and wild cherry. I have rarely seen more impassable ground than that close to the river. The coarse grass rose high around us, preventing the possibility of seeing anything—a condition which obtains in almost every part of the country; but an additional and far more effectual barrier to our progress existed in the shape of a thick tough brushwood which clothed the irregular ground with a network of small boughs, catching our feet firmly at every step. Later, at Cape Shipunsky on the south-east coast, we found the country even more impracticable. The bears, however, manage by their great weight to force themselves through this thick cover with little apparent difficulty. Just inside the forest, at a distance of six or eight feet from the river-bank, is a firmly-trodden path some two feet in width, made entirely by these animals; and as these paths are to be found without a break on either side of the river in its whole course through the forest country—a distance of about 500 miles—it will be understood why bears' skins do not command any very high price in the peninsula.

The procuring of a sufficient quantity of duck for our daily needs became at this period a rather difficult matter, the main river being deserted by them for smaller streams and marshy pools in its vicinity. Sea-birds became more numerous; a tern (*Sterna longipennis*), two or three phalaropes, or the Red-throated and Black-throated Divers (*C. septentrionalis* and *C. arcticus*), were to be met with from time to time. We also shot a *Podiceps*, which seemed to be identical with our own Red-necked Grebe.[1] On the banks an

[1] According to Mr. Seebohm, the eastern form of *P. rubricollis* is conspicuous for its larger size, and especially for the greater length and stoutness of the bill; and the measurements of the above-mentioned specimens certainly bore this out.

eastern form of the Pied Wagtail (Kittlitz's *Motacilla leggeli*) was extremely numerous; the Yellow Wagtail much less so. Of all the land birds the Kamschatkan Marsh Tit (*P. kamschatkensis*) was at this part of the river by far the most abundant. For two or three days we saw them in flocks of from fifty to a couple of hundred individuals, streaming northward along the bank from tree to tree.

Shortly after mid-day we passed the mouth of a river joining the Kamschatka on the right bank. The natives knew it as the Kojerevska. It is a stream of some size, being apparently of considerable depth, and having a breadth of forty yards at its junction with the main stream. As far as we could gather, it drains the opposing slopes of the Tolbatchinska and Kojerevska volcanoes.

We reached the little hamlet of Kojerevsky at nightfall. The distance from Tolbatchik, the scene of the last rows we had had with the natives, is only ninety-one versts instead of two hundred, and we might with perfect justice have reduced our payment to half of the sum we had promised. But, to tell the truth, we had become so wearied of the endless wranglings in which we had been involved in all our dealings with these wretched people that we paid them without a word. It was better to let them think that they had deceived us than for them to imagine that we had weakly yielded to what we knew to be an imposition. We were pleased to find that the Kojerevskans exhibited strong evidences of their Kamschatdale descent. We were received by the head-man, a little brown fellow with bright eyes; and under his direction the people did everything in their power to help us, carrying up our baggage, bringing us wood, and altogether showing us an amount of civility that was as new to us as it was agreeable. They provided us with wild cherries, cranberries, potatoes, turnips, milk, cream, and butter, and last, but by no means least, with a loaf of coarse rye bread, which, we heard, had been specially prepared for the Klutchi pope, who had been expected to pay the settlement a visit.

We felt that we had got among friends once more, and managed by the aid of all these luxuries to pass a very pleasant evening, in spite of the cold. At night the beacon flame of Kluchi, now brilliantly illuminating the clouds of smoke that hung around the crater, now sinking almost to extinction, shone out far above our heads. There was an angry look about the volcano, and we were told that its activity had of late been somewhat increased. The explanation was simple. The Kanuli, or Spirits of the Mountains, whose home is in the bowels of the volcanoes, had merely been more fortunate than usual. It is hardly necessary, in these days of omniscience, to explain that it is to these beings that all volcanic disturbances are due. They go to the sea at night to catch whales, which are their favourite food, and the roasting of several of these animals within the crater is, as may be imagined, an operation which requires the consumption of no inconsiderable amount of fuel.

The weather had become steadily colder from day to day, and as we turned out on the morning of the 11th September we regretted that the Spirits of the Mountains had not seen fit to do their cooking in closer proximity to our camp. Our moustaches were frozen to the blankets, and the water in the bucket inside our tent was a sheet of ice. Morning observations and photography are always interesting, but they are certainly best appreciated when the thermometer is well above freezing. The view from our camp was glorious, and the mountains, cloudless from base to summit, towered above us with the startling clearness of outline so characteristic of northern regions. Kojerevsky—a village of ten huts and sixty-three inhabitants—lies at the foot of Uskovska, a mountain of nearly 13,000 feet, whose summit from this aspect presents the appearance of a uniformly rounded dome of snow. It is in reality twenty-three miles off as the crow flies, but the giant scale on which Nature works in these regions belittles space to an extent that is inconceivable, until the hard facts of actual measurement are before one. A little further to the south and east is Kluchi, whose sharp peak rises to a vertical height of 3¼ miles above the

river, guarded on the right by Kojerevska, which is inferior to it in altitude by fifteen hundred feet. To the extreme right lies Tolbatchinska, and above the intervening stretch of flat forest land the solitary peaks of the two isolated volcanoes I have before mentioned are visible some fifty miles away.

We had but little difficulty in getting the canoes requisite for

FOX TRAP.

constructing our raft upon somewhat less risky principles than the one that had, thanks to our good fortune, borne us the last seventy miles of our journey in safety. We reverted once more to our old plan of dividing forces, and late in the morning recommenced our voyage amid the firing of many salutes from the guns of the Kojerevskans, to whom we were really sorry to have to bid adieu. At 4 P.M. we reached Uskovska, a hamlet containing

thirty souls only. Landing to rest, we noticed here, for the first time, a fox trap of simple construction, which is said nevertheless to be very effective. A broad mortice is cut in an ordinary rough log, and in the longitudinal hole thus produced a spring is placed, composed of two pieces of raw hide twisted together, which impels a barbed prong. This is discharged by means of a trigger, to which a string is attached leading across the animal's usual track. Although Kamschatka is a country which would appear to be peculiarly adapted for trapping, it seemed to us that it was not undertaken to anything like the extent that might be expected.

We camped eighteen versts below Uskovska, in good spirits at the improved condition of our affairs and our rate of progress down the river. We had need of them, for after dinner, on inspecting our last case of photographic plates, which had been packed with all possible care in blankets, we found that the greater number of them had been broken to atoms. Such are the results of pack-horse travelling! Of the whole lot but two remained, and these, with one or two we had left over from another case, were all we had to last us for the rest of our journey! It was a cruel disappointment. We were in the midst of scenery which for magnificence was almost without parallel, and which we could never have a hope of seeing again. For some days the volcanoes, which at this season of the year are often invisible, had shown themselves without a cloud. And now, just as we were approaching them, and arriving at the very part of our journey of which we most desired to have a record, we were doomed to failure—a failure the harder to be borne from the fact that our limited time precluded any possibility of sketching.

It was blowing hard from the W.S.W. as we embarked at daylight on the following morning, and before long the wind had freshened considerably. The thermometer was not lower than usual, but the keen wind penetrated our garments and froze us to the bone. It was in our favour, and hoisting a portion of one of the tents as a sail, we sped along merrily. Soon, however, it became evident

that we could no longer continue our journey. Everything is comparative; and to our craft, with its low free-board and heavy load, the three-inch waves became more formidable than the heavy seas in a gale in "the Bay" appear to an ocean steamer. It would have been too absurd to founder in such a tea-cup storm, so we made for the shore, and set to work to cut down trees till we had to some extent restored the circulation in our limbs. An hour or two later the wind dropped, and we were able to proceed. We noticed the signs of some old forest fires near this spot, but they seem, happily, to be very rare. In Scandinavia, in a journey of the length that ours had been, we should have seen fifty or more. Here the great precautions that are taken against their occurrence are no doubt the chief reasons for their infrequency. Our hunters told us that the sables do not return to these spots for many years after, even if the forest has been but slightly injured by the fire.

Late in the afternoon we passed the hamlet of Kristovsky, or Kristi as it was called by our men, and a few versts farther came upon some people encamped upon the banks. It is curious how little the rivers are used as highways either during the winter or summer. The natives can hardly be said to travel at all, excepting in their winter excursions after sable. This was only the second party we had seen away from the settlements, and we were told that no one had passed down the river from Melcova that year. We shouted greeting as we passed, but there was no time to stop, as we wished to reach Kluchi that night. Our Kojerevsky men worked their paddles with a will, and before long we reached the mouth of the Yelofka River, a large stream, eighty yards or more in width, which joins the Kamschatka on its left bank. It flows due south, draining the western slopes of the great Sevelitch volcano, and is used as a road to Tigil, a settlement on the river of that name in the north-west part of the peninsula, which is, or used to be, a trading station of some importance to which the Koriaks and Tchukchis bring in their furs for sale. The river is ascended by canoes for fifty or sixty miles, the watershed is then crossed by

a march of two or three days' duration, and the traveller, striking the upper waters of the Tigil, reaches his destination by canoe.

At or about Kristovsky the Kamschatka, whose direction, roughly speaking, has been due north, bends suddenly to the east, and circles round the base of the stupendous volcanoes that guard its mouth. The aspect of the peaks alters considerably. Were not such a thing almost impossible, one would say that the scenery had increased in its sublime magnificence. Uskovska, Kojerevska, and Kluchi alone are visible, and of the two latter it is hard to say which is the finer. Kluchi is, and had been from every point from which we had hitherto beheld it, a cone of absolutely perfect shape, and Kojerevska is but little less regular in its outline. Now, as we advanced, the base of the latter was hidden in dense cloud, but its summit—a peak of extreme sharpness—stood out bare against the sky, the northern face a vertical wall of black rock on which no snow could rest. The river here is much increased in size, and is from three to four hundred yards broad. The depth is very uncertain, varying from a mere shallow intersected with deeper channels to twenty feet or more.

A few versts above the village of Kluchi four canoes pushed out from the banks and joined our party. Fully one-half of their occupants were women, who seemed to use the paddle with as great dexterity as the men. The boats were laden almost to the gunwale with the Kisuchi salmon, almost all of which were in good condition, though some had the peculiar rounded snout developed to a most extraordinary extent. One of the women—a most repulsive-looking creature—was dressed in man's clothes, but another had distinct pretensions to good looks, and ranging her canoe alongside, was soon deep in a flirtation with Afanasi, of whose reputation as a lady-killer we had all heard. The sun was setting as we rounded a corner, and came in sight of the village, its smoke hanging as a blue haze in the still evening air. To our left the Harchinska Mountains, furrowed with deep gorges, looked almost black against the amber sky. The huge cone of Kluchi caught the

last rays of the sun and flushed a pale pink, while at the lip of the crater a fleecy puff of smoke hovered for an instant as if in doubt, and then floated out a long thin streamer to the east. Around his shoulders hung a thick belt of cloud, gathering rapidly with the fast-approaching night, and beneath, slope after slope rose steadily up to meet the pyramid above. Kojerevska showed here and there a patch of glistening snow through rifts in the dense veil that hid him from our sight, and on the lake-like surface of the river below our little fleet of boats paddled merrily homewards to the rough and mournful cadences of a Kamschatkan love-song. Suddenly the flame of the first salute shot out from the other raft, the signal for a general fusillade. It was answered by a flash and a report from the village; and a little later we stepped ashore at Khchi, and were welcomed heartily by the head-man and a little crowd of the inhabitants.

The morning of September 13th broke with hardly a cloud; and the view of the mountains, which now lay nearly due south of us, was so magnificent that I did not hesitate to devote one of my last plates to it. We crossed the river in a dug-out, and landed on a sand-bank near the opposite side. The stream is here six hundred yards in breadth, and forms a fitting foreground to the picture. Behind the village, whose weather-worn huts line the banks for nearly a quarter of a mile,—for Khchi may be regarded almost as a city in this part of the world,—the even slopes of ruddy vegetation rise smoothly upwards, till, at the height of two or three thousand feet, the snow is reached. The outline of the mighty volcano was as perfect here as before, and its exquisitely graceful slope as unbroken. Near the summit, on the side immediately facing us, a deep furrow, as yet untouched by the rays of the morning sun, showed the remains of some past eruption—a huge scar which the snows of many winters had done their best to obliterate. From the crater light puffs of smoke drifted slowly away to the east, far whiter than the snow which lay below, for on all sides, and especially near the summit, a sprinkling of ashes had

KLUCHEFSKAYA VOLCANO (16,988 FEET). Page 166.
(From the North.)

dulled its purity almost to a grey. The rounded half-dome of Uskovska to the west showed a vast field of unbroken snow, and on the side towards Kluchefskaya appeared to have been completely blown away by some great eruption in past years, leaving a huge open crater, the western walls of which alone were standing. The upper part of these, which was all that we were able to see, seemed to be almost vertical upon the inner face. Between the two mountains was a lesser cone, which, like Uskovska, appeared extinct. To us it was known as Little Kluchi, though whether we obtained this name from the natives or not I do not now remember.

The opportunity was an excellent one for taking further observations on the heights, the river forming a good base. We accordingly took advantage of it; and from the results of this and other work the following may be given as fairly accurate altitudes for the four chief volcanoes lying to the south of the lower part of the Kamschatka River:—

Kluchefskaya	16,988 feet.
Uskovska	12,508 „
Kojerevska	15,400 „
Tolbatchinska	11,700 „

Mount Gordon and Mount Herbert Stewart—the two volcanic cones lying to the south-east, to which I have alluded on a previous page—are probably both about 8000 feet in height.

It was late when we returned to breakfast, and found a visitor awaiting us. He was a poor old fellow nearly seventy years of age, who had spent three-and-thirty years of his life in this one spot, acting as a sort of doctor. What diplomas, if any, he possessed I do not know, but he seemed to have had sufficient ability at some remote epoch of his existence to have forgotten something. Half in dog-Latin, with a word or two of English, and half through Jacof and Afanasi, he gave us some few scraps of information. It seemed that three years previously—in 1879—

an eruption of Kluchi had occurred. There had been no previous warnings, although the mountain is always more or less in a state of activity, but on the morning of August 14th, dense clouds of smoke appeared above the crater, and at mid-day the sky was as dark as night. Before long ashes began falling, and in a few hours the ground was covered with them to the depth of three inches. There was no earthquake, but, on the following morning, a small stream of lava poured from the lip of the crater on the north side. It descended but a short distance, however, and, shortly after, the mountain returned to its usual state of threatening quiescence. With this exception there have been no eruptions within the memory of man, or at least none of any magnitude. A few ashes often fall, and had done so not long before our visit, but the recent falls of snow had done much to hide them.

Kluchi appears to have been still more active in the middle of the last century. Krasheninikov, in the work I have mentioned, says that "it throws out ashes twice or thrice yearly, and sometimes in such quantities, that for 300 versts around the earth is covered with them to the depth of a vershoke (nearly two inches). From the year 1727 to 1731 the inhabitants observed that it burnt almost without interruption, but they were not under such apprehensions as in the last conflagration in the year 1737. This terrible conflagration began the 25th of September, and lasted one week with such violence, that to the people who were fishing at sea near the mountain it appeared one red-hot rock, and the flames which burst through several openings sometimes showed like rivers of fire with a shocking noise." On the 6th of October there was an earthquake of tremendous violence in the Avatcha district and the southern point of Kamschatka; regions which, it should be observed, lie in a direct line between Kluchi and the volcanic chain of the Kuril Islands. An enormous tidal wave occurred, "overflowing the shore 200 feet high," and killing many of the inhabitants; but the country in the immediate neighbourhood of the volcano did not appear to suffer much, although a violent

earthquake was experienced at Nischni Kamschatka on the 23d of the same month.

In 1762 and 1767 outbursts again occurred, though of very much less severity, but subsequent to that time no accounts of other eruptions have, as far as I am aware, been published, with the exception of that of Professor Adolph Erman, who, in 1829, found the peak "in picturesque and sublime activity, and approached the burning lava, which poured forth a continuous stream," till he reached the height of 8000 feet above the sea.[1]

Upon the northern side of the Kamschatka River, 59 miles N.E. by N. of Kluchefskaya, rises the irregular mass of Sevelitch, of which we had hitherto seen but little. Its height is probably between ten and eleven thousand feet, but we were not able to take any measurements to correct this estimate. It is highest and most conical at its eastern side, and at the time of our visit was sending forth considerable volumes of smoke, which appeared to come from a crater low down on the south-west aspect, but owing to the extreme irregularity of the mountain, it was difficult to ascertain its exact position. Nothing indeed can be more striking than the difference between this volcano and Kluchi. The latter, with its wonderful steepness of slope and its unbrokenly conical shape, is probably one of the best instances that could be given of a mountain that owes its entire height and form to the slow piling up of the ashes and lava ejected from its crater. But in Sevelitch it is evident that the method of formation has been very dissimilar, and not of gradual occurrence, excepting as regards the secondary craters that have formed on the original mass. Mr. Erman, who passed several days on the mountain and the plains below, regarded it as having been forced from beneath the surface at a single eruption, since its bulk was composed of crystalline rock "resembling lava as little as the granitic rocks of the Alps." It would seem as if some giant power had upheaved the thin crust of the

[1] "Journal Roy. Geogr. Soc.," vol. ix. p. 509. In the map accompanying this letter, Uskovska is placed some miles to the south of its real position.

earth's surface, and that through the openings thus formed the liquid rock had poured, retaining the upthrown fragments in their new position.

SEVELUCH VOLCANO, FROM THE SOUTH.

About nine months after our departure from Kamschatka a series of eruptions appear to have taken place, which in grandeur must have rivalled those described by Krasheninikov in 1737. Of these no particulars seem ever to have been published, for two years later the very fact of their occurrence was unknown both to the Royal and Royal Geographical Societies. But, from the fact of their having been synchronous with the terrible catastrophe at Krakatau, they present features of such interest that I here quote the cutting of the "Japan Gazette," to which I am indebted for the only information I can obtain upon the subject:—

"THE JAVA ERUPTIONS.—We are indebted to Mr. T. R. Green, who has just returned from a prolonged journey in Northern Asia, for some highly

interesting information respecting volcanic disturbances in that region. The particulars given, taken in connection with the recent volcanic eruptions in Java, seem to indicate that the active agency extended over an immense area. The disturbance of Mount Krakatau began early in August last, culminating on the 26th. At the beginning of July a cone, from 8000 to 10,000 feet high by estimation, not marked on the chart, but situate near the Kamschatka River, supposed to be inactive if not entirely extinct, suddenly split in two, emitting immense quantities of lava, which poured down its slopes. This phenomenon was not, however, accompanied by any very great local disturbance. Mount Sivelutch (of Keith Johnston's map), the highest peak of the Kamschatkan range, 17,000 feet high, was in active eruption throughout the whole month of July, the pillar of flame in calm weather being distinctly visible at distances of from 200 to 250 miles; giving, after allowance for refraction, an altitude above the summit of the cone of 8000 to 10,000 feet. When the air was still, smoke, steam, etc., rose vertically to an elevation of 15,000 feet, where, meeting with a northerly air current, it abruptly took, at right angles, a southerly direction in a thin direct line. Captain Hubbard, of the M.S.S. *Yogoshimamaru*, recently described an eruption which took place at Shibotaru, one of the Kuriles, in the early part of June last. A copy of his letter addressed to Professor John Milne was, by the kindness of the latter, published in the 'Japan Gazette' of 30th June. Mr. Green further states that in April last the ice in the neighbourhood of the Kuriles was discoloured with volcanic ashes for miles in every direction, indicative of eruptions of unusual violence, probably in the north, but of which we have no note. Mr. Green was enabled to make some very interesting observations on cloud formations in the vicinity of the Kronotsky Peak. He describes this as, perhaps, the most perfect cone in the world, because it tapers to a fine point, and is of greater elevation than Fujiyama. At 2 A.M. to sunrise it would show perfectly clear and distinct from the sea like an unplumed cocked-hat. As the sun rose the snow would soften, evaporation no doubt begin, and mists would slowly gather around the summit, giving the mountain the appearance of a gigantic plumed field-marshal's cocked-hat. At daylight on the next morning there was not a vestige of the plume, but the process of its formation proceeded with unvarying regularity. This information will probably attract the attention of the Seismological Society. There certainly now seems an opportunity rarely offering for collecting and digesting the data respecting recent volcanic disturbances which should be availed of."[1]

[1] The above paragraph needs explanation. What the "cone not marked on the charts, but situated near the Kamschatka River" may be it is impossible to say, but

Klnchefskaya and his fellows have led me into a longer digression than I had anticipated, and I must return to the poor old doctor who, had we been better acquainted with his language, would doubtless have proved an interesting companion. He told us that we were the first travellers he had ever known to come down the Kamschatka River. We appeared to be a source of almost childish delight to him, and his pleasure was still further increased by discovering a professional brother. He was becoming blind he thought, and asked me to look at his eyes, which showed signs of advancing cataract. Operation would have been inadvisable at the stage they were in, and I told him that I feared I could do nothing for him. He kissed my hand and raised it to his forehead, saying that it was of no consequence, and that he loved all doctors, no matter of what nationality. There is a law against selling liquor in the interior of the country, and his eye glistened half with sorrow, half at the aspect of a bottle of Hennessey that stood at hand. We offered him a glass, and it disappeared as if by magic, and as he made his bow and *do svidanie*, he absently helped himself to another bumper. He had asked me to go with him to his house, as he had a present for me. On arriving we found his granddaughter, a pretty little child of five or six, playing with a young blue hare which lolloped up in a most confiding way to have its ears scratched. This was the present, but it was evidently such a pet of the little girl that it would have been a crime to have taken it. The old gentleman, however, apparently wished to make some return for a lancet I had given him, and was rather disappointed at my refusal until he suddenly bethought himself of a skull of a Kamschatdale, which he had found laid bare by a

by "Mount Sirelnch" there is, I think, but little doubt that Klnchefskaya and not Sevelitch is meant. It is evident that Mr. Green did not himself visit the neighbourhood of the great volcanoes, or he would not have described the Kronotsky Peak as the most perfect cone in the world. The height of this mountain, which lies immediately to the east of the lake of the same name, is given by Findlay as 10,610 feet, while that of Fujiyama has been variously estimated at from 12,234 to 12,365 feet.

flood at one of their ancient burial-places,—a treasure that I joyfully accepted.[1]

We had taken up our quarters at the house of the head-man, and on my return thither I found that the pope had arrived to pay us a visit. His appearance was not prepossessing, and unkempt hair, a very fully-developed squint, and a total absence of conversation rendered him decidedly uninteresting as a companion. But he brought us two remarkably fine cabbages as a present, for which unaccustomed luxury we felt very grateful. We learnt that there were only nine priests or popes in the whole of Kamschatka. Like the doctors, they are paid by the Government, but they also receive tithes in kind from the people. They come for the most part from Siberia, and socially rank little, if at all, above the peasantry. This gentleman, for example, had married the sister of one of the horse-boys we had brought with us from Petropaulovsky to Sherowny, who had been sable-hunting with Jacof Ivanovitch at the Kronotsky Lake during the preceding winter. We called on her to thank her for the present, and found her a homely little woman with a much larger fund of conversation than her husband. On leaving the house a grey-bearded old man rushed out upon me, seized and kissed my hand, embraced me, patted me on the back, and poured out a torrent of unintelligibility which led me to the extremely English conclusion that he was drunk. I had wronged him. Afanasi was at hand, and gave me a *précis* rendering of his speech. He was merely expressing his delight at meeting with a European traveller!

The doctor had arrived to pay us another farewell visit when I again reached our house. We had many attractions for him; some of them in bottle. Poor old fellow; his sorrow at parting with us was too much for him, and when we turned round and discovered the Hennessey at the lowest ebb, it gave us almost pain to have to sign to Louis to remove it.

[1] *Vide* "Journal Anthrop. Inst.," Vol. xvi., No. 1, p. 21.

Our original intention had been to leave Kluchi in the forenoon, but many things conspired to prevent it. We had bought some of the little birch-bark barrels that they make so cleverly throughout the country, and there was a great discussion as to whether we had paid for them or not,—easy to be explained by the fact that the inhabitants of the village are the descendants of Siberian Russians brought from the River Lena, and settled here about the year 1735. Wearied with the constant recurrence of these impositions, I wandered out at the back of the village to inspect the fields, which are of larger extent here than in any other place we had yet visited. Rye is cultivated, though apparently not to any very great extent, although the valley of the Kamschatka is said to be the only place where there is any chance of its ripening. It is sown in the middle of May, and the harvest, when there is one, is at the middle or end of August. Potatoes and turnips were grown in some abundance, but there was little else in the way of cultivation except a few poor attempts at garden produce. The catholic tastes of the sledge-dogs prevent the inhabitants from keeping the smaller domestic animals, but cows are numerous, and almost every house had poles placed around the front to keep off these animals, which are permitted to wander about at will.

The discussion on the birch-bark barrels had subsided on my return to the house, but we found that our landlord had inserted the pope's cabbages in the bill—or what would have been the bill did such things exist in the country—and more difficulties arose before we finally got afloat. At the last moment the doctor again appeared, with two boxes and a loose razor which he begged us to take to his son in Petropaulovsky. In his hand he bore the Kamschatdale skull, reverently tied up in an old handkerchief. We paid our landlord, and included the pope's cabbages; we paid twice for our birch-bark barrels; we slung up the skull at the back of our hut; and bidding *do swidania* to the united population of Kluchi, who were drawn up on the bank to watch our departure,

we paddled out into the current, and in another ten minutes the village was lost to view.

In Findlay's "North Pacific Directory" it is stated, though upon what authority is not clear, that the Kamschatka River "is said to be capable of admitting vessels of 100 tons about one hundred and fifty miles up the stream." This, however, is not correct, or at any rate is very misleading, for the river is beset throughout with sand-banks which in many places apparently lie completely across the stream. Thus, opposite Kluchi village there was only an average of seven feet of water, while both above and below we got depths of twenty or thirty feet and more. The sand-banks also are very unexpectedly placed, and the navigation of the stream by a large vessel, even if possible, could only be accomplished by the aid of an elaborate system of buoys, which, I need hardly say, is not likely to be instituted for many a year to come. From some versts above Kluchi to the mouth of the river, except at the Tchoaki or narrows, to which I shall have occasion to refer presently, many islands are formed by the bifurcation of the stream, some of them of large size, and the river increases considerably in breadth. Opposite the village it is said never to freeze entirely over, a fact the people attribute to the existence of hot springs in the river bed. They also told us that salmon remain here throughout the winter, though not in any great numbers.

Among these islands there appeared to be more duck than we had been lately accustomed to see in the lower part of the river, and we here obtained the Shoveller (*S. clypeata*) for the first time. Landing to replenish the larder at some small lakes towards the hour of sunset, we remarked both snipe and wild geese, neither of which we had previously met with, but it was too dark to distinguish the species. Verglaski followed us on occasions such as these with the stolid expression and steady gait he always affected. Nothing short of a bear, I believe, ever roused him to any less dignified pace than a walk, and as he slowly followed us, I had a lurking suspicion that he regarded our occupation as a rather

childish one. I had too much belief in his moral character to attempt to account for his peculiarities by any such physical reasons as "the rheumatics"—a cause that one of us profanely suggested. As a retriever he was inimitable. We had shot a duck that fell far out into the shallow lake, and while looking at it, and calculating the possibilities of its drifting ashore, Verglaski came up and realised the situation. He glanced at us in a way that said plainly, "This is not my business, but if you will wait here, I will see if I can get it out for you," and proceeded to do so with a three-yards-a-minute pace, and a concentration of purpose that was irresistibly ridiculous. Poor old dog; it was the last service he ever rendered us.

We had contemplated sleeping on the rafts, and continuing our journey through the night, as the river is at this part free from dangers, but as it would have made it impossible for us to go on with our observations, we eventually decided not to do so. We accordingly paddled on until it was too dark to see, and making the rafts fast to the bank, slept as well as we could at the bottom of the canoes, so as to be in readiness for starting at dawn upon the morrow. In the way of saving time the experiment was successful, and we were off again at 4.45 A.M., reaching the hamlet of Kamakoffskaya after three hours' steady paddling. Just before arriving we awoke to the distressing fact that Verglaski was not with us, and as no one had seen him since leaving the camp of the previous night, there was but little doubt that he had been left behind. Jacof at once borrowed a canoe and went in search of him, hoping to catch us up before nightfall. Meanwhile we had breakfast and inspected the village, which, in spite of its imposing name, is a miserable, bleak-looking place, with a population of barely fifty. Perhaps it is with some latent feeling of modesty that the inhabitants have shortened Kamakoffskaya to Kamaki. The day was wretchedly cold and gloomy, and the aspect of two half-starved Kamschatdale children, clad in a tattered rag of furs, who sat shivering on a rotten old canoe which lay half-buried in the mud,

did not serve in any way to render it less depressing. The village appeared nearly deserted, and as there was nothing to detain us we resumed our journey without loss of time. Before noon we arrived at the Tchoaki (lit. cheeks). These are narrows about seven miles in length where the river passes through a range of hills from two to three thousand feet in height. Both entrance and exit are very sharply defined, and the stream, which above and below is about eight or nine hundred yards broad, is here narrowed to between three and four hundred. The scenery is decidedly picturesque after the monotonous miles of willow-lined banks that weary the traveller's eye in the lower part of the Kamschatka; and we were reminded somewhat of the Iron Gates on the Danube, which geographically—I do not say geologically—the Tchoaki closely resemble. But the former are on a grander scale, and the river here, in spite of its contracted width, exhibits none of the tumultuous rush of water which makes the passage of the Iron Gates so difficult to a Danube steamer.

In the Tchoaki we met two or three canoes coming up from Nischni Kamschatka, and learnt from them that a schooner, painted white, and with a steam launch, was lying at Ust Kamschatka—the settlement at the mouth of the river. This was a piece of information which astonished us considerably. That there should be a ship of any kind there other than the *Marchesa* was most improbable, for, as they told us, she was the first vessel that had visited the river for three years. More improbable still was it that she should be a stranger when the fact of her being painted white was taken into consideration; while the existence of a steam launch seemed finally to put the matter beyond a doubt. But on the other hand, the fact that she was said to have arrived many days before was greatly against it, and as the bar was very shallow, it seemed hardly likely that the *Marchesa*, with her draught of fifteen feet, would be able to cross it. The natives could not give us any further information, as they had not seen the vessel, and we were left in a state of doubt which no amount of discussion helped to enlighten.

Emerging from the eastern entrance of the narrows we found ourselves passing through a flat, uninteresting plain which extended as far as the sea. Here the scenery is scarcely more interesting than that at the mouth of the Thames. A cold wind swept over the dreary reaches of the river, and behind us an ink-black sky gave warning of approaching bad weather. At 4 P.M. we passed Nischni or Lower Kamschatka, once the capital of the peninsula, a village of some importance with twenty houses and a church, and a population of 150. It lies a little way off the main river upon a smaller stream, and just opposite, upon the other bank of the Kamschatka, the Radnga, a river about forty yards wide at its mouth, flows in from the south. A canoe shot out to intercept us as we passed, bringing a letter for Petropaulovsky from the Kluchi pope, who had left that village just before us on the preceding day, and shortly afterwards we saw another boat paddling hard after us. We stopped to let it approach, and soon recognised Jacof, whose gloomy face told us that Verghaski had not been found. He had apparently gone down the river for some distance, and had then turned back and proceeded towards Kluchi. Here the track had become obliterated, and Jacof had been obliged to give up the search. Poor old Verghaski; his quiet methodical ways had endeared him to all of us, and Jacof was much distressed at his loss. In the summer he would have had no difficulty in finding enough to subsist on, but at this season hardly any fish were left, and the settlements being so far apart, and upon the other side of the river, it was more than doubtful if he would ever have a chance of reaching one of them.

Paddles were once more resumed, and we were discussing the advisability of proceeding to the mouth of the river without stopping, when we perceived the smoke of a steam launch in the distance. By our glasses we soon made her out to be a stranger, and all doubts as to the arrival of the *Marchesa* were thus at an end. She proved to be the launch of the walrus-schooner *Nemo*, bound to Nischni Kamschatka. She had on board the first officer—

a Swede—an agent of Mr. Phillippeus the fur-trader, and a crew of four Japanese. They told us that nothing had been seen of the

PALLAS'S EAGLE. (*Thalassœtus pelagicus.*)

yacht, and could give us no news of the civilised world, having been for some time lying in the river; so, after wishing them *bon voyage*, we continued our journey.

Since leaving Kluchi we had spent a good deal of time in trying to obtain a specimen of Pallas's Northern Sea Eagle (*Thalassœëtus pelagicus*)—a species which, at this part of the river, is by no means uncommon. It is a magnificent bird, and is especially conspicuous from the large white shoulder-patches and tail, but owing to its shyness it is extremely difficult to approach. We were, unfortunately, not provided with a rook rifle, and the few long shots we obtained were unsuccessful. Once only did we get a bird fairly within shot, and the two barrels of No. 2 that he received at a distance of thirty yards seemed to have no effect whatever upon him. This eagle appears to be chiefly confined to the lower part of the Kamschatka River, for we did not meet with it before reaching the neighbourhood of the great volcanoes.

The natives are prevented by law from barring the river in the lower part of its course, and here the salmon are taken chiefly with seine and drift nets. The V-shaped curral-trap of stakes, with baskets on the lobster-pot principle, is also frequently seen; a system which, as I have already stated, is used to bar the river right across at Melcova. The fat of the Kisuchi salmon is regarded as a great delicacy, and is prepared in considerable quantities at this season. A canoe is filled with water, and a number of the fish placed in it. Into this large red-hot stones are dropped, thus boiling the contents, which are meanwhile constantly stirred. The fat is then removed as it rises to the surface.

The low and muddy shores of the river in this part of its course are in many places intersected with small creeks, at the mouths of which two tall poles may often be noticed. These are used for taking ducks at flight time, by a plan which is not uncommon in other parts of the world. A fine net is hung between the two poles, which the hunter lets fall as the birds fly against it. By this means we were told that large numbers are often caught.

We woke on the morning of September 15th to a most miser-

able day. We had not dug the trenches round our camp unnecessarily; the rain was coming down in torrents with a bitter wind, and we deferred our start till nearly noon. After four hours' paddling, the river, which here averages from twelve to fourteen hundred yards in breadth, widens still further opposite to the entrance of the arm leading to the Nerpitchi Lake, and sweeps round sharply to the south. Just beyond lies the village of Ust Kamschatka, in the dreariest situation it is possible to conceive; and here, cold and tired, we pulled up at 5 P.M. and established ourselves in a comfortable little hut belonging to Mr. Phillippeus, the fur-trader. Our journey was practically at an end, for we were but four miles distant from the bar at the mouth of the river.

A small look-out tower is built a little to the south of the village, and we at once ascended it to see if there were any signs of the *Marchesa*. Nothing was to be seen at first, but before long we made her out approaching from the south; and thus, after an absence of a month, we had hit off the time of meeting with an exactness as curious as it was fortunate. We were anxious to get off without delay, and the captain of the *Nesso*, with whom we had made acquaintance, offered to take us. We were soon afloat in his whaler, which was manned by a Japanese crew, and with the oars double-banked, we got over the water at a pace that was somewhat different to that to which we had been accustomed on the rafts. As we neared the river's mouth the thunder of the surf was not reassuring, and we landed to reconnoitre on the left bank, where the river, making a sharp turn before debouching into the sea, runs close to and parallel with the beach. Our men, who had preceded us with the baggage, had made a large fire of drift-wood, of which we were glad enough to take advantage, for our teeth were chattering with the cold, and the rain had recommenced. But what we could see of the bar through the darkness was not such as to induce us willingly to attempt it, and we at once decided to return.

The captain of the *Vesno*, who was a Swede, and spoke English with perfect fluency, enlivened our row home with his accounts of Saghalin, from which island he had just come. It is now a Russian penal settlement, which is only used for criminals of the worst kind. The discipline adopted, according to his account, was of extreme severity, and many of the prisoners preferred to take their chance of escape, and the almost certain risk of death by starvation in the bush, rather than endure it. In one case he mentioned, two of these unfortunate wretches escaped. One was caught almost immediately, and the other returned of his own accord at the end of some days, nearly dead from starvation. He was fed up until he recovered, and 100 lashes were then administered every day until one of the men died.

In Ust Kamschatka, it is hardly necessary to say, there are neither gas lamps nor pavements,[1] and the state of the paths about the settlement—if paths indeed they can be called—is indescribable at this season. The captain, who was as good an amateur doctor as he was a Samaritan, had asked me to come and see a sick woman he had been looking after, and we accordingly started at once in search of the hut. It was by no means easy to find it, and we stumbled about over stones and through swamps for some time in vain. In one of the latter my companion lost his boot, and though we expended all our matches in hunting for it, we never saw it again, and he had to see his patient in a condition that was, to say the least of it, unprofessional.

We had been bidden to a feast in the evening. To have one ship in the port was rare enough, but the presence of two was so unprecedented that it was felt that something must be done to commemorate it. A ball was accordingly resolved on. The Swedes sent various intoxicating drinks, as became their nation, and the supper-table groaned with Kamschatkan delicacies—cranberries, brick-tea, and cold ducks. The ballroom was not lofty, and the

[1] Perhaps I may be wrong. I was once asked by a lady, in all seriousness, if the hotels in New Guinea were tolerably good!

THE DANCE AT UST KAMSCHATKA. Page 186.

two Swedes, who stood about six feet three in their stockings, had their heads among the dried fish and other odds and ends hanging to the rafters. A number of empty bottles served in lieu of candlesticks, and the illumination was conducted on a scale that must have appeared little short of reckless to the Kamschatkans, to whom a candle is an expensive luxury. In one corner was stationed the band—an old fiddler, who, if hardly up to the latest Strauss or Gung'l, was nevertheless able to give us the dance-music most in vogue at Ust Kamschatka for an uninterrupted period of six hours.

All the rank and fashion of the village were present. Around the room sat fourteen individuals of what, in Europe, is termed the fair sex. Here, I regret to say, they were so only in name. No mean advantage, such as is obtained from the combined effect of champagne, wax lights, and gauzy dresses, had been taken of the unsuspecting male, and it is curious how little false glamour is thrown over an object by the aid of cranberries and corn brandy. We gazed around the room and felt that for once our hearts were safe. Our partners were—dare I whisper it?—just a wee bit fishy. Blush not, fair reader; the papas and mammas of the young ladies were there to chaperon them, and the dance was everything that was proper and correct, but Kamschatka is Kamschatka, and in lieu of the suspicion of "White Rose" or "Ess" of western civilisation, an *extrait double* of dried salmon lent its not uncertain perfume to the ball-dresses of our partners.

We performed our duty to society by going round the room and solemnly shaking hands with everybody, which, we were told, is the correct thing upon these occasions; and then, posting ourselves in the doorway, we took stock of our surroundings before embarking upon the serious business of the evening. The whole of the *Vesne's* party were present. Above them all towered R——, the captain, and his first officer, who had been a lieutenant in the Swedish Navy, and was one of the handsomest men I ever saw. The seal-hunter attached to the schooner, a Hudson's Bay man,

was conspicuous for the lively colouring of his hair, the effect of which he had considerably heightened by a bright green tie. Long pursuit of his quarry, and the conviction of the hollowness of all earthly pleasures with the exception of rye-spirit and tobacco, had given him an almost preternatural solemnity of expression, and oblivious to the charms of his partner he shuffled round the room with a calm consciousness of the excellences of seal-hunters as exemplified in his own person, which evidently produced a great effect among the ladies. The walrus-hunter, his companion, was no dancer; and had not even the compensating attraction of a green tie. Originally a gold-digger in California in the "roaring times of '49," he had left that somewhat unhealthy occupation and, according to his own account, had chased the walrus in most parts of the Arctic Ocean. He was hardly regarded as a "ladies' man" even by the Kamschatkans, and as he sat furtively watching the dancing, a short black pipe half-buried in his enormous bushy beard, one felt that he had the makings of a very pretty scoundrel about him. We were as strange a mixture of nationalities as of individuals. A Russian fur-trader of more than doubtful sobriety, an American negro steward of the *Nemo*, our two hunters, and a few of the eligible youth of the settlement completed the party; and round the door the crew of the *Nemo*—a group of bright-eyed little Japanese—watched the performance with evident amusement.

A dance had just ceased as we arrived, and we took our seats in placid ignorance of what was in store for us. Presently the squeak of the fiddle was heard, and instantly the ladies rushed in search of partners. There was a great move in the direction of the two Swedes and the rest of the party, and as became a modest old bachelor I prepared to *faire tapisserie* with the papas and mammas. But it was destined to be otherwise, for on raising my eyes I found that two fair damsels were suing for the honour of my hand. Now, were I of a romantic nature, I might enlarge upon the position; the bewitching glances of my two would-be

partners, their beseeching tones of entreaty, the natural diffidence that I felt in such an unaccustomed situation, and the coyness with which I was eventually induced to bestow the dance upon the most persistent of the fair ones. But truth compels me to relate a different story. Even the brilliancy of the bottle-candelabra'd room failed to throw a halo of romance around the affair. The young women were *not* beautiful, and, as a matter of fact, I would just then have hailed the appearance of my old college best-maker as a third suitor with delight. However, there was no time to be lost; the seal-hunter, the American nigger, and the tall Swede were already hard at it, and slipping my arm around the waist of the nearest fair one, I plunged blindly into the dance.

The affair was simple enough at first. The dance merely consisted in shuffling slowly round the room side by side, the gentleman with his left arm free, the lady accompanying the music with a sort of monotonous chant. Time was of no particular object, and smoking was permitted, and as we had partaken neither of the cranberries nor the corn brandy, we felt as well as could be expected under the circumstances. It was not for long, however. Suddenly the music stopped; everybody clapped their hands; and, short and stern, the order rang out in Russian—"Kiss." There are moments in which even the stoutest spirit quails. I turned a despairing glance on my partner and my heart sank within me. All hope was gone! We all know how in moments of supreme emotion the most trivial details become indelibly stamped upon the mind. The scene is before me now. I saw the red-haired seal-hunter bend down to meet his fate like a hero, his green tie dangling in the air; I saw a gallant officer who had served Her Majesty in many climes struggle nobly to the last. Slowly my partner's arms dragged me down . . . the lips stole upwards. I nerved myself for a final effort . . . and all was over! Before the next dance I had fled.

About noon on the following day we again rowed down to the mouth of the river, and as we neared the bar we saw that to have

attempted it on the previous night would have been foolhardy in the extreme. At ordinary high tides it appears that there is between ten and eleven feet only in the deepest part, and R—— told us that he had had a narrow escape in getting the *Nemo*, which had a draught of ten feet six inches, into the river. She had bumped heavily once or twice. The entrance shifts constantly, and in bad or indifferent weather the bar is doubtless a very dangerous one. We arrived at the best time of the tide,[1] and were fortunate enough to get over the three big waves without even a wetting. A few minutes later we boarded the *Marekan*, after an absence of exactly a month. We found all well, and the day passed quickly in chatting over our various adventures. The Swedes bade us adieu towards evening, and the sun was setting in a blaze of gold behind the giant pyramids of Klnchi and Kojerevska as we fired a farewell gun and stood away for Bering Island.[2]

[1] It appears that there is only one tide here in the twenty-four hours.

[2] I have adopted this, the correct orthography of the celebrated navigator's name, instead of the more usual Behring, a piece of bad spelling which, I believe, we originally borrowed from the Germans.

CHAPTER IX.

BERING ISLAND.

We anchor off Nikolsky—Breeding-places of the Fur Seal—We sledge across the island—Evidences of its gradual elevation—Raids by predatory schooners—The "rookery"—Land life of Callorhinus—Arrival of the bulls—Their installation—Arrival of the cows—Organisation of the "rookery"—The adult animals—The pups and kalluschkis—Slaughtering—Annual take of skins—Curing the skins—The Alaska Commercial Company—Dr. Stejneger—Relics of Bering and his crew—Importation of reindeer—We return to Kamschatka.

Eastwards from Kamschatka stretches the curious chain of volcanic rocks known as the Aleutian Islands. A vast series of stepping-stones, as it were, to the dreary fog-bound coast of Alaska, they correspond geologically as well as geographically to the equally lonely, but less known chain—the Kuriles—connecting Yezo with the peninsula we have just left. All but the two most westerly belong to Alaska, and are in consequence American, but Bering and Copper Islands, together known to the Russians as the Komandorskis,[1] form part of the dominions of the Czar.

A glance at the map tells us nothing with regard to the importance of these two islands. There seems to be no reason why they should not be just as valueless as the other islands of the chain. Dreary, barren, and treeless; covered with great stretches of *tundra*, lake, and marsh; exposed to the full force of the terrific gales which rage in those latitudes during the autumn and spring; hidden in fog throughout the short summer, and partially ice-bound

[1] So called after Commander Bering, who perished there in 1741.

through the long inclement winter, one would hardly suspect them to be of any very great commercial value, yet they are the breeding-grounds of the Fur Seal (*Callorhinus ursinus*), whose skins clothe the fashionable fair sex of half Europe and America, and will probably continue to do so for centuries to come, now that the reckless war of extermination formerly waged against the animal has at length been put a stop to.

It was with the intention of visiting these breeding-grounds, or "rookeries" as they are termed, that, on the 16th September, we cleared Cape Kamschatka and set our course eastwards for Bering Island. The voyage is not a long one, and by noon on the following day, having run a distance of 105 miles, we found ourselves in sight of land. The morning was bright and sunny, a rare enough event in these regions, but there was little to attract in the shores we were rapidly approaching. A vast extent of brownish-yellow flat lost itself in the distance, rising here and there into table-topped hills of no great height. Other features in the landscape there were none. Not a tree or a sign of human habitation was to be seen, and the only trace of life and movement apparent lay in the long white lines of breakers that thundered upon the coast. The settlement is placed at the mouth of a small river on the north-west side; and in a couple of hours more we had taken advantage of what little shelter the so-called harbour affords, and let go our anchor in five fathoms off the south part of the bay.

We were soon boarded by an individual in the service of the company to which the islands are leased, and I doubt whether he was ever more mystified in his life before. Poaching schooners from San Francisco who cruise around in the fogs in the hope of making unseen raids upon the rookeries—these he was doubtless well acquainted with; and the fur-steamer which calls twice yearly for the pelts was also within his comprehension. But our *raison d'être* and intentions were quite beyond him. He probably did not know what a yacht was, and even if he did, we felt that it would be altogether too much to expect him to believe it likely that

any one would leave England to cruise in Bering's Sea for amusement. He left the ship with evidently no little distrust as to our designs, but condescended to supply us with two pieces of information before his departure: the first, that we had taken up the best anchorage in the bay, and the other, that we were the only British ship that had ever visited the island. For the truth of the latter statement I cannot vouch; with regard to the former we could only say that we were sorry it was not better.

The little village, in spite of the utter bareness of its surroundings, looks neat and not unpleasing from a distance, with its carefully-fenced compounds and red-roofed houses. This improved appearance—for not long ago the people lived in miserable underground yourts like those in use among the Kurile islanders—is due in great measure to the Alaska Commercial Company, who rent the islands from the Russian Government, and have the sole right of killing the seals. Many turf-built houses still remain, inhabited by the Aleuts employed in the seal-industry, but they are being gradually replaced by the more healthy wooden tenements, all the materials for which, in consequence of the complete treelessness of the island, have to be brought over from Kamschatka. The condition of the islanders has no doubt improved in every way since the Company has been in possession. There is a Russian church and a good school for the children, and the ills to which Aleut flesh is heir are looked after by a surgeon. With the exception of one or two Russian officials who check the annual take of skins, administer justice, and lead as meditative an existence as the climate will permit, every soul upon the island is in the service of the Americans.

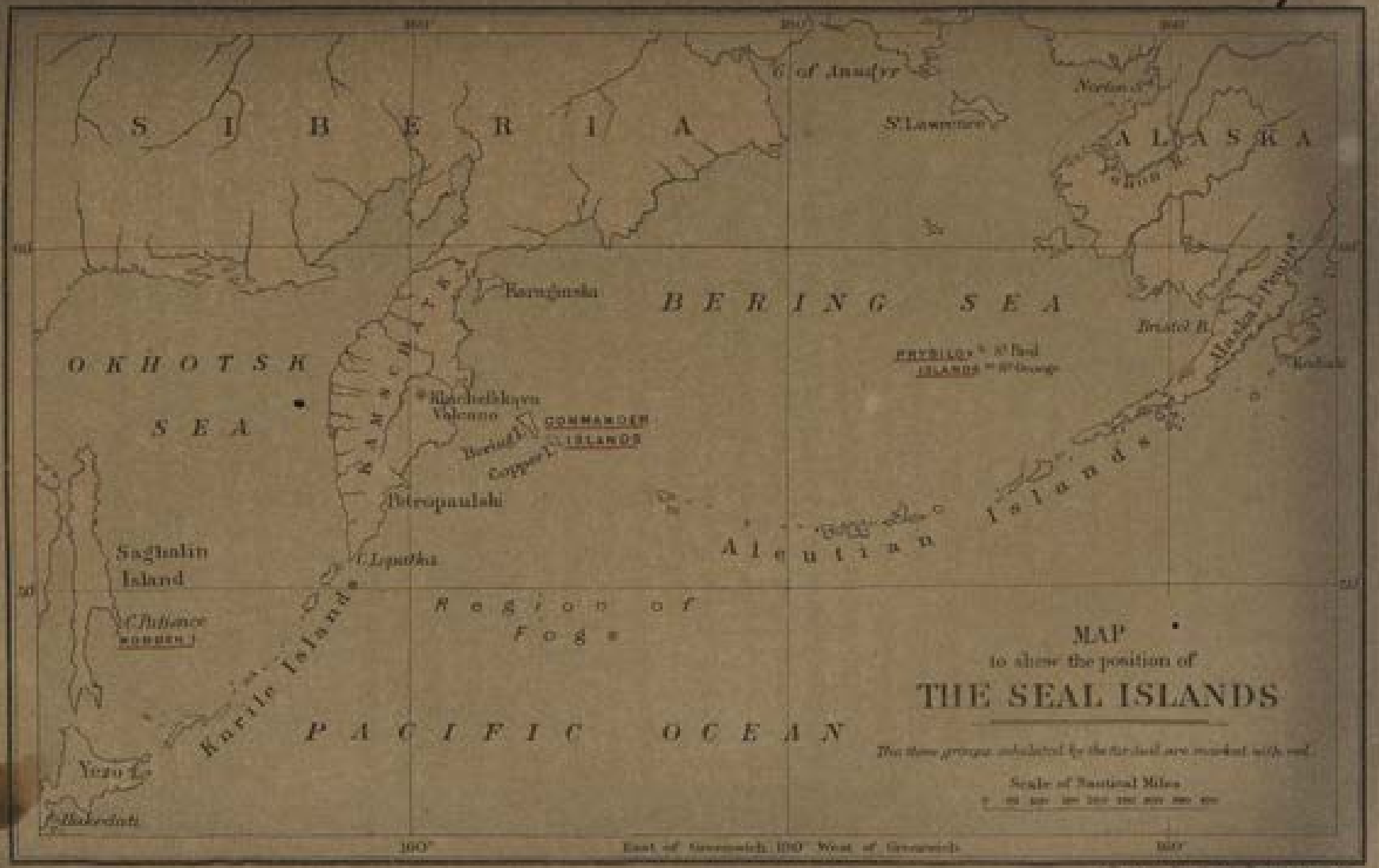
The Komandorskis, and, for that matter, other islands in these out-of-the-way regions to which I shall presently refer, would be valueless without the fur seal; and just as in Kamschatka the salmon and sables are the be-all and end-all of life, so here this extraordinary animal, whose congener of the Antarctic Ocean is now nearly extinct, supplies either directly or indirectly the means of

support to the inhabitants, and at the same time a fund of conversation to enable them, in conjunction with tea and tobacco, to sustain life through the winter until the "killing season" commences. Before my reader accompanies me across the *tundras* to the rookery on the other side of the island, a glance at the habits and distribution of the animal is necessary to enable him to understand the system upon which the annual "take" is worked.

ALEUT TYPE.

The fur seals, or more accurately speaking, the breeding-places of the fur seals, are in the North Pacific confined to five islands. On Masafuera and Juan Fernandez Islands off the coast of South America a few skins are still taken, and in bygone days the South Shetland, Crozet, and Falkland Islands were the resort of countless thousands of these animals. But they are now nearly extinct, and almost every sealskin that finds its way into the London market is obtained upon one or other of the islands rented by the Alaska Commercial Company. Copper and Bering Islands are by no means the most important. By far the largest export is made from the Pribylov group, two islands (St. Paul and St. George) in Bering's Sea to the east and north of the Komandorskis, on which 100,000 skins are taken annually. Last, and of least importance, is Robben Island, the chief interest of which lies in its somewhat abnormal situation as a breeding-ground—it being nearly 1000 miles distant from the other seal islands. It is close to Cape Patience, on the eastern shores of Saghalin, and the number of skins yearly obtained from it is very small as compared with the yield of the Bering and Pribylov groups.

The sea-cat or sea-bear, as *Callorhinus* has been familiarly named by the seal-hunters, is a gregarious animal which disports itself in the waters of the Pacific throughout the winter, and during


S I B E R I A
G. of Anadyr
St Lawrence
Norton Sd.
A L A S K A
Behring S.
BERING SEA
Karaginska
Bristol B.
Kadiak
PRYBILOF or St Paul ISLANDS
or St George
OKHOTSK SEA
Khechelskaya Volcano
COMMANDER ISLANDS
Petropaulski
Aleutian Islands
Saghalin Island
C. Lopatka
C. Patience
Region of Fogs
Kurile Islands
PACIFIC OCEAN
Yezo I.
Riukiu Is.
MAP
to shew the position of
THE SEAL ISLANDS
The three groups calculated by the fur trade are marked with red.
Scale of Nautical Miles
160° East of Greenwich 180 West of Greenwich 160°

that time is seldom or never seen. Impelled by unerring instinct, it steers northward in the spring, and reaches, by a power that seems little short of miraculous, one of the five islands I have just mentioned. It seems that the seal almost always returns to the island upon which it has been born, although not necessarily to the same rookery, and the date of its appearance is one of considerable regularity. In Bering Island the 12th May was, we were informed, the usual date of the arrival of the bulls. The cows are later by three weeks or more, but by the middle of June the rookeries are crowded, and the land existence of these curious animals has fairly commenced for the year. Here they remain for four or five months or longer, during which time the inhabitants of the island are hard at work slaughtering and preparing the skins to a number previously regulated by the Company. The departure of the animals is not so regular as their advent. If a cold winter is to be expected they go earlier; if the reverse they remain considerably longer, but their usual date of leaving is about November 20th.

Early on the morning after our arrival we landed for our expedition across the island. As we walked through Nikolsky, as the little settlement has been recently christened by the captain of H.I.M.S. *Africa*, numerous stolid-looking Aleuts turned out to stare at us and to wish us *drastia*. Nature having altogether declined to supply them with wood, they have overcome this obstacle to the construction of boats in the same manner as the Esquimaux and other northern tribes,—by the use of skins; and beautifully-modelled canoes, not unlike Greenlanders' kayaks, and similar in every way to some we saw afterwards among the Kurile islanders near Cape Lopatka, were lying near many of the huts. The *bidarrahs*, open boats of very large size, are made in like manner by stretching skins over a wooden framework, but though capable of being sailed, and of carrying a considerable quantity of cargo, their shape by no means commends itself to a sailor's eye. The agent of the Alaska Commercial Company had kindly provided us with dog-sledges, and we found them "inspanned" and waiting for

us on the banks of the little river, into which the dogs were kicked with scant ceremony to find their way across to the farther side. Halfway over they got entangled with the sledges and one another, and when to the ignorant European bystander they appeared three-parts drowned, an Aleut who had been placidly watching matters from the bank walked into the icy water and drew therefrom a sledge with a large bunch of dogs attached. I have seen a Cape cart and six horses "*dem-kwaer*" with a mixed harness composed of raw hide, rope, and leather, the whole an indistinguishable mass of kicking legs; but I do not think I have ever seen a prettier mess than our teams exhibited on gaining the bank. Without the aid of a knife it looked hopeless, but sledge-travelling is, I believe, full of little incidents of this kind, and it was not long before the delinquents were unknotted and we had commenced our journey.

However wearisome it may be for *blasé* Arctic explorers, there is no doubt that, with the proper accompaniments of a bright sun and sharp air, travelling by dog-sledge is one of the most exhilarating of all forms of locomotion. Somewhat back-breaking it is, no doubt, for the sledge—a mere framework of planks six feet by two, elevated some six inches from the ground—is without any support for the occupant to lean against, and the tyro has to keep his position as best he can by means of the small side rail. The driver runs by the side, steering the dogs by word of mouth, and throwing his stick with unerring aim at any lazy or obstreperous member of the team. The sledge-dogs in Kamschatka have on the whole a hard time, but the Long Vacation which all of them enjoy during the summer atones for it. But here the wretched animals have to work throughout the year, and are treated with no tender hand by their master. If they can be kicked into their proper places, this seems to the unsophisticated mind of the native by far the simplest method to adopt; and the mode of chastisement in use—that of holding the dog down and pounding him on the head with a heavy stone—is most certainly effectual, though to an Englishman it is by no means a pleasing sight.

CROSSING BERING ISLAND. Page 199.

There are two rookeries upon Bering Island, and of these we resolved on visiting that at the northern end. The country to the south is mountainous and broken, but here our way led over great stretches of plateau land and *tundra*, through whose level sea of yellow grass we hissed, exposed to a perfect shower-bath of dewdrops. Our six sledges followed each other in Indian file, and in the distance looked like a string of huge caterpillars crossing the extensive plains. In every direction sheets of water from a few yards to a mile or more in length lay around us, sparsely dotted with wild duck; and curious hills, low, flat-topped, and isolated, stood up abruptly from the level surface of the marshy flats. The land, rising from the sea in a succession of terraces of singular regularity, bears the strongest evidences of gradual but discontinuous elevation. These terraces have very abrupt edges, and down these little cliffs of ten to twenty feet in height the sledges shot from time to time with a velocity not a little startling to the occupant, who was generally in total ignorance of their proximity. Now and then we crossed slight elevations, partaking rather of the character of the Kamschatkan fjells, and covered with billberries and *Empetrum*, and occasional patches of the "reindeer-horn" moss. Such ground is most exhausting to walk upon, the pedestrian sinking up to the knees into the soft mossy hummocks at every step.

We had taken our guns in the hopes of securing some ornithological specimens, but, with the exception of the Lapland Buntings (*E. lapponica*), which were numerous, few birds were to be seen. About six or seven miles from Nikolsky we came to a little stream with overhanging banks, where with a small hand-net, and also with our own unaided hands, we caught some beautiful little trout of a quarter to half a pound in weight. Close by was a small pool, whose connection with the stream was of the faintest description; but it must nevertheless have been sufficient to permit of the passage of some large salmon which we found there. They were kelts of the Haiko and Garbusa (*O. lagocephalus* and *O. proteus*),

but although a few were still alive, the greater number were dead and rotting on the banks, and none were fit for food. Near here we shot some snipe and teal, and shortly afterwards came to a long yellow plain like an unbroken expanse of September corn, which stretched away in a gentle slope to the rookery some five or six miles distant. Here, for fear of disturbing the seals, the order "cease firing" was given.

A small settlement of about twenty huts stands at no great distance from the rookery. These are only used in the summer, while the seals remain upon the island, and are inhabited by a strong force of Aleuts under the command of a Cossack. These men are all armed with American rifles, and guard the rookery day and night against the raids of predatory schooners. Every year a small fleet of these vessels leaves Yokohama, ostensibly for fishing or walrus-hunting, but it is well known that this is not their real business, and that advantage is taken of the fogs so often met with in these northern seas to make descents upon the seal islands. The Alaska Commercial Company are not by any means shy of using force upon these occasions, and in more than one instance the depredators have been severely handled. In October, 1881, two of the crew of one of these vessels were killed, and seven or eight wounded. Among the latter was an Englishman or American, who was afterwards landed at Petropaulovsky with no less than thirteen bullet wounds. Strange to say, he eventually recovered. After our departure from Bering's Sea we heard that the schooner *Nesse* which we had left at Ust Kamschatka had been shortly afterwards seized as a suspected craft by a Russian cruiser, and taken to Vladivostock. Here she was detained throughout the winter, and the crew kept prisoners, but what eventually happened to them we could not learn. That the lessees of the islands should have some means of checking the poaching on their shores, and in the surrounding waters within a distance of three miles or so, seems fair enough, but it is more than doubtful whether such high-handed measures as have lately been taken should be permitted. In an

Act of Congress passed in 1870 for the protection of the Pribylov Islands the extent of the preserved waters is not definitely specified —the phrase "and the waters adjacent thereto" being employed.

Our dogs were unharnessed and tied up, and, taking the precaution of keeping well to leeward, we walked down to inspect the rookery. Although familiar with the description of a former visitor, I confess that I was utterly unprepared for the sight that

SEARCH DOGS.

met my eyes. For a distance of about three-quarters of a mile along the coast was spread a seething black mass of animal life, the individuals of which seemed almost "as the sand upon the sea-shore for multitude." There were, we were told, about seventy thousand of them, but had our informant said seven hundred thousand I do not think I should have been astonished. Beyond a certain limit the eye is incapable of estimating numbers. Excepting in the case of the human species, I had never before seen such an enormous collection of living creatures gathered together

in such a restricted area, and indeed no other instances of a like nature are known in the animal world. Sprawling about in all manner of attitudes, fighting, sleeping, fanning themselves, making love, and splashing in and out of the water in shoals, these densely-packed creatures exhibited a ceaseless activity of movement which reminded me strongly of a mass of maggots in a piece of carrion. The ground upon which they had "hauled up"—for this is the term in use to express the animals' landing—was a long stretch of low-lying black rocks, backed and interspersed with coarse pebbly beach, and upon the summits of the higher eminences some huge old bulls were easily distinguishable. A shore of this nature, we were told, is always much preferred to sand, which adheres to the creature's fur, and, getting into its eyes, is apt to induce inflammation. From the fact that we saw young seals with ophthalmia in this rookery, it would seem, however, that this, although possibly one, is not the only cause of the disease.

Approaching as near as we dared without disturbing our "sitters," we took photographs of the strange scene before us. It was as noisy as it was restless. The united vocal efforts from the many thousands of throats produced a dull, continuous roar that resembled nothing so much as the sound that greets the ear at "the finish" on a Derby day. This noise is said to be audible at a distance of three miles or more, and is one of the signs by which the proximity of the island is recognised by sailors during a fog. For the most part it is an evenly-blended volume of sound, but now and again the lamb-like bleat of a pup is audible above the rest, or the deep, hoarse bellow of an old bull. The din is constant, for the animals take their rest in short, uneasy dozes at any time in the twenty-four hours, and life on the rookeries by night is as ceaseless in its activity as by day.

The land life of the fur seal is as peculiar and interesting as the distribution of the species. Morally, I am afraid, it is not instructive, for the animals are all confirmed polygamists, run away with as many of their neighbours' wives as they can, and spend

their time in continual fighting. But with all these peculiarities they are essentially law-abiding individuals, as must be the case in all large communities. The rookery, with the extent of its area as sharply defined as that of a sheep pen, is portioned out upon a certain plan which is rigidly adhered to, dependent mainly upon the fact that the young males are not permitted to engage in the responsibilities of matrimony until they have reached their sixth year, although they are actually adult before that time. These happy individuals, known by the natives as the *kolluschicki* or bachelors, are allotted a playground to themselves where, in company with the pups of the other sex of one and two years old, they sport unconscious of the parental cares and sanguinary battles that another season or two will find them engaged in. These playgrounds are either in rear or at the side of the rookery, the remainder of which is allotted to the old bulls, their wives and the newly-born pups. Into this part even the boldest *kollusckack* dares not penetrate, for if he does so he probably pays the penalty with his life.[1]

The old bulls, as already stated, are the earliest arrivals, and immediately proceed to select a good position for the reception of their future wives. They "peg out a claim" as it were, into which none other intrudes save at his peril. To the defence of this little space, which is perhaps not larger than a small room, the whole energy of the animal is devoted. He neither rests nor eats, and his whole time is occupied in savage encounters with other later comers who endeavour to oust him from his post. It is only the biggest and strongest that can retain the coveted positions next the sea, and even these, worn out in time by the severe wounds that they have received, have occasionally to yield to younger and fresher antagonists, and literally, as well as metaphorically, to take a back seat. The seal even at this period then is scarcely to be held up

[1] For a great part of my information upon the subject of the seal rookeries I am indebted to Mr. Ossche, an employé of the Company, and to the elaborate "Monograph on the Seal Islands of Alaska" of Mr. H. W. Elliott.

as an example of brotherly love, but the effect produced by the appearance of the fair sex upon the scene can be imagined. They have been long expected, and the position of their future lords and masters having by this time been pretty well settled, the rookery has relapsed into a somewhat more peaceable condition. But with the advent of the cows, who, poor things, have but a sorry time of it, all is changed, and the fighting again commences with redoubled ardour. The fortunate animals who have secured the positions next the sea have, of course, the first choice as the new arrivals "haul up" upon the beach, and they waste no time over the matter. The bull seal has as little romance about him as a last year's "Bradshaw," and he does not idle away his hours in sighing at his mistress's feet. Should any cow come within reach he seizes her by the scruff of the neck, and having deposited her within his "chain," at once turns his attention to the annexation of another. Meanwhile perhaps his neighbour, struck with admiration at the graceful proportions of the bride, has quietly transferred her to his own harem while her husband's back is turned, and a pitched battle ensues upon the injured bridegroom's discovery of his loss, during which the unfortunate cow for whose possession they are fighting is either seized upon by a third party, or gets severely mauled by the combatants. Mr. Elliott relates a case witnessed by himself, in which the disputed fair one, while tugged in opposite directions by her admirers, had the skin completely torn off her back to the extent of a foot or more. These injuries are borne by the sufferers without a groan, and apparently heal with great rapidity.

Before long the cows have all landed; the attitude of the bulls towards each other becomes more peaceable, and their domestic arrangements more settled. The number of wives with which each is eventually provided varies very much, and depends chiefly upon the position and strength of the master of the harem. Mr. Elliott tells us that he has known of one unhappy individual who guarded as many as forty-five; but such instances are rare, and from twelve

to fifteen is said to be an average number. Those who are weaker, and compelled to take up outlying posts at the back of the rookery, have very much fewer, and among these it is but seldom that more than three or four are seen. But although after a little while all prospect of adding fresh beauties to his seraglio is gone, the matrimonial duties of the unhappy Benedict still keep him closely imprisoned to the little plot of ground upon which he commenced housekeeping. He dares not leave his charges for a moment, or they would be instantly appropriated by his neighbours; and thus, cut off from the sea and from food of every kind, he endures a fast so protracted and absolute that at the end of his three months of married life he is reduced to a mere shadow of his former self. Even we, with all the advantages of civilisation, cannot show greater incentives to the continuance of a bachelor life!

By the beginning or middle of August the rookeries lose all trace of the careful organisation they previously displayed. The pups go down to the water's edge and make their first essays in the art of swimming,—an art which seems, curiously enough, to be not natural but acquired. The bulls, emaciated and scarred with their many fights, regain the sea and swim about in the neighbourhood of the island, though for the most part they do not land again upon the rookeries. Some of them are not so fortunate, and either perish in the fighting, or become so injured that they are forced to leave. The latter, we were told, generally herd together by themselves in some undisturbed spot to recover from their wounds,—an hospital, in short, where Nature, the most successful of all physicians, in most instances effects a cure.

The male fur seal differs in a most striking manner from the female. For the first two or three years they are much alike in size and appearance, but after that age the female practically ceases to grow. It is far otherwise with the bull, who apparently gains in weight until his death, and thus becomes enormously greater than the female in size. This increase in bulk is chiefly noticeable in the fore quarters of the animal, the throat and shoulders especially,

and the effect is such as almost to give him the appearance of a different species. According to Mr. Elliott, the weight of a three-year-old male is about 90 lbs. and its length 4 feet 4 inches, but a full-grown one of the largest size would weigh as much as 600 lbs. and measure over seven feet. Such monsters as these are of course useless so far as their skins are concerned, but in the rookery their authority is proportionate to their weight, and few antagonists would care to dispute a holding ground with them. The immense masses of fat which these old seals carry render their movement on land an affair of more or less difficulty, but the action of the females and young *holluschicki* is much freer, and they get about with a tolerable amount of ease. A pet one presented to us during our visit, which lived for several days on board the yacht, gave me abundant opportunity of studying its habits. The fore flippers are used with considerable power, and the animal progresses almost entirely by their means, the hind quarters, which appear as if they were semi-paralysed, being drawn up awkwardly after them. Despite its evident unfitness for life on land, the seal is, however, a very fair climber, and is often found some distance inland, and in places by no means easy of access.

The female, or cow as she is always termed, comes on to the breeding-ground at the beginning of her third year, and at that age weighs little over 70 lbs. The older ones sometimes increase to as much as 120 lbs. but the majority are considerably under that weight. They are thus just one-sixth of the size of the bull. Their length from tip to tip, as given by Mr. Elliott, is from four to four and a half feet. Very soon after their arrival—at most not more than a day or two[1]—they give birth to a single pup, whose life, amid all the desperate fighting that ceaselessly takes place between the ponderous bulls, runs no little risk of extinction during the first few days. The cows go through no period of lengthened fast like their consorts, but after a little while pay regular visits to the

[1] From this and other facts it seems that the period of gestation is almost exactly twelve months.

sea, and often leave their pups unattended for a day or more. The latter do not seem to suffer from this neglect, and the mother, able to obtain a sufficiency of fish, remains sleek and in good condition throughout the summer. The pup is born with the eyes open, and is nearly black in colour.

THE FUR SEAL. (*Callorhinus ursinus.*)

There are few sights more fascinating to a naturalist than the vast sea of animal life which one of these great rookeries presents. The fur seal, though possessed of the keenest powers of scent, cannot see well, or, more accurately speaking, does not become so readily cognisant of danger by sight as by smell, and in consequence, if the observer only keep to leeward, he may watch the animals playing within a few yards of him at his leisure. We were on the

edge of the *holluschicki* ground, and the various gambols and attitudes exhibited by them were most amusing. Some engaged in mimic warfare, and rolled over and over like young kittens; others sat fanning themselves slowly with their long hind flippers. Whether this is really done for the sake of keeping themselves cool I do not know, but that they are extremely sensitive to heat is certain, for sunny weather invariably sends them into the sea in large numbers. Rain appears equally to be disliked by them, but a cold, foggy day, we were told, is their beau ideal of weather. Mr. Elliott doubts if the animals will vacate their present breeding-places, since no other shores in Bering's Sea are properly adapted for their requirements as regards ground and climate. Certainly if their idea of enjoyment consist in lying on a wet rock in a fog, exposed to an icy breeze, their present choice of locality seems admirably suited to them. Yet in spite of these insanitary rashnesses they are said to live to the age of twenty-four years or more. What better argument, I wonder, could a lady possibly advance for the absolute necessity of a sealskin cloak!

We were too late in the season to see the rookeries in their fully organised condition, but a great number of old bulls remained, and were conspicuous by their large size and by the elevated positions they had assumed. They were most likely those that had returned from a holiday of a month or so at sea after the squabbles and anxieties of their married life. They are the first to take their departure and do not usually return, but the cows and *holluschicki* remain much later, and leave about the same time—in the earlier part of November, or even in October. The agent of the Alaska Company told us that, as a rule, the shores were practically deserted by the 20th of November, but that a few stragglers were occasionally to be found even later. They are usually the more weakly pups, who perhaps are unwilling to trust themselves to their ocean life until they have gained a sufficiency of strength.

There are certain disadvantages attaching to bachelorhood even

in seal life. Among ourselves, some careful statistician has, I believe, conclusively proved that what is called the expectation of life is considerably greater among the married than the unmarried. Through the instrumentality of the Alaska Commercial Company the same rule holds good for the unhappy fur seal. Nature, from the lowest to the highest of its species, abounds, so naturalists inform us, with "useless bachelors," but as one of the class myself, I cannot help sympathising with the fate of the *holluschicki*. Not even the alternative of a wife is offered them, but they are tapped on the head with little ceremony and converted into sealskin jackets. The place of slaughter, where the unburied bodies of the victims lay rotting in the damp air, aroused other feelings besides those conveyed through the medium of the nose; and bearing in mind the coming reign of utilitarianism, I could not help congratulating myself on the fact that man is not a fur-bearing animal.

The *holluschack* is, from his habit of life, unconsciously the author of his own misfortunes. As I have already stated, the playgrounds are always perfectly distinct from the breeding-ground, and often lie at a considerable distance from them. It is a rule, to which no exceptions are permitted, that the latter should never be disturbed. Beyond the age of six years—the breeding-age in short—the skin of the male fur seal is useless from a commercial point of view, and that of the pup, even were it of the best quality, is far too small to realise its highest value. The cows are, of course, preserved with the greatest care, none being ever permitted to be killed, and hence it happens that the bachelors alone, and even among them only those of a certain age, supply the skins that are annually taken for the European market. The method of killing them is simple, and is much facilitated by the tameness and slow movements of the animal. Running quickly between the playground and the sea the natives are able to cut off the escape of as many as are wanted, and those thus separated are driven slowly up to the killing-grounds. They are guided far

more easily than a flock of sheep would be; a few men stationed on the flanks and rear of the column being all that is necessary. Arriving at the place of slaughter, the animals are killed in batches by being knocked on the head with a leaded club some five feet in length. A knife is then plunged into the heart, and the skin removed without loss of time, for any delay in this operation often causes the fur to rub off. The majority of the seals thus killed are at the commencement of their third or fourth year of existence, when the fur is at its prime. The few useless old ones, or any young pups that may get mixed up with the drove, are spared, and permitted to return to the sea.

The number of skins annually taken upon each island is regulated with the greatest care, and is so arranged that the animals shall under no circumstances suffer any reduction in number from year to year—in other words, that the breeding stock shall always remain undiminished. Keeping this object carefully in view, the Alaska Company find that they can take as many as 100,000 pelts every year upon the Pribylov Islands. The Komandorski group is not nearly so productive. Bering Island furnishes a varying number which may perhaps be averaged at 18,000,[1] but more are obtained from Copper Island, where the number usually reaches 20,000. I have no information with regard to Robben Island, but, roughly speaking, the total number of skins annually sold in the English market (for they are all brought to London) cannot be much less than 150,000.

The first process of curing that the skins are subjected to is simple in the extreme. They are merely packed together with salt between and around them, and having been left thus for a few weeks, they are ready to be tied together and tossed into the hold of the steamer that takes them to San Francisco. The after processes of curing, unhairing, and dyeing are too complicated to give at length. Upon the care with which they are performed depends the quality of the skin; seldom, as is generally

[1] In 1881 10,078 were exported; in 1882 about 12,000.

supposed, upon the condition of the animal from which it was obtained.

Most ladies, if the truth were known, and I daresay not a few of the sterner sex also, imagine that the fur seal (as to whose identity with the hair seal they are perhaps somewhat hazy) disports itself in its native element with its jacket in exactly the same condition as those which grace their own fair figures. This, however, is by no means the case. The natural colour of the animal is a dark greyish or brownish black upon the upper surface of the body, shading into a steely grey over the shoulders, while beneath it is much lighter, becoming pale yellowish, or even almost white, upon the chest. The whole of the true fur, which in the prepared skin is all that is allowed to remain, is covered with a thick layer of coarse, shiny hairs, and the appearance of the natural skin, though pretty enough upon the animal, would be anything but pleasing if made into a garment.

We watched the rookery until we were tired, and then, anxious to see the process of slaughtering and skinning, asked that a few seals might be driven up for that purpose. But either from its being contrary to custom, or from a distinct unwillingness to oblige us, our request was abruptly refused; and it was only with the greatest difficulty that we got the overseer to allow some to be separated and driven up in order that we might photograph them. It was in vain, after this was over, that we begged to be allowed to take away two or three of the animals: they were to be counted by tens of thousands close at our feet, yet permission was unceremoniously refused us. We were, however, determined, by fair means or foul, to get hold of a specimen for museum purposes, and at length, after much discussion, we were given a weakly two-year-old suffering from ophthalmia, with which we had to be content; and making him as comfortable as we could upon one of the sledges, we started on our homeward journey.

Before leaving the subject of the fur seals and their rookeries, a word or two anent the Alaska Commercial Company is necessary.

Started in 1869 by two energetic Americans who alone recognised the value of the seal islands at the time of the occupation of Alaska by the United States Government, it has saved a most valuable animal from extinction, and the Pribylov and Bering groups are now neither more nor less than stock-farms where every care is taken for the preservation of the breeding animals. It is impossible to visit the North Pacific without hearing the Company abused, but, as it seems to me, entirely without justification. Their action, with the exception of the more than vigorous measures which they have occasionally taken for the defence of their property, appears to have always been most moderate, and to tend quite as much to the benefit of their successors as themselves. The profit upon the skins is by no means excessive so far as can be gathered from Mr. Elliott's work. The rental of the Pribylov Islands is $50,000, and, as has been stated, the number of seals killed annually is about 100,000. Upon each pelt a duty of $2 is paid to the United States Government, and as each costs 40 cents for skinning, it will be seen that the actual sum disbursed for every sealskin leaving the islands is twelve shillings, —an amount that is further augmented by the addition of the general expenses of the Company. The Bering group is, I believe, held from the Russians upon rather more advantageous terms. The lease of all the islands expires in 1890.

It was with much surprise and pleasure that we found Dr. Leonard Stejneger, the accomplished and well-known naturalist, established in Nikolsky. He had come to investigate the natural history of the Komandorskis, and was prepared to devote himself to an eighteen months' exile from civilisation in this dreary spot. Surrounded by the large collections he had already made, it was pleasant to chat over subjects in which we had a common interest, and to learn many details of the island which he alone could give. He had just returned from an expedition to the spot where Bering and his crew had wintered in 1741, and had been successful in obtaining a quantity of bones of Steller's sea-cow—the huge mammal, as far as we know peculiar to the island, which has been extinct

for more than a hundred years.[1] He had also found some grape-shot, a few iron bolts and some glass beads—the relics of Bering's ill-fated party.

According to Dr. Stejneger, none of the species either in the fauna or flora of the Komandorski group are indigenous, but are the results of immigration after the emerging of the islands from the sea. This immigration has taken place chiefly from the west, and the animal and vegetable life consequently agrees very closely with that of Kamschatka. There are, of course, but few land mammals upon the islands. The blue or Arctic fox (*Vulpes lagopus*) is still tolerably common, although it no longer exists in the enormous numbers in which Bering found it, but as many as fifteen hundred were killed in the season of 1881-82. The most abundant animal appears to be the field-mouse (*Arvicola rutilus*), whose introduction took place barely a decade ago. It now swarms in Bering Island throughout its whole extent, but as yet has not gained a footing upon Copper Island.

ALEUT. FIX.

The only domestic animals are chickens and cows, for up to the present horses have not been introduced as they have upon the Pribylovs, and all transport work is effected by means of dogs. At the period of our visit we found the whole community greatly interested in an experiment which, in its first steps, had been very successful. Fifteen reindeer, four of which were stags, were landed on the island in the month of July, thanks to the joint efforts of Dr. Dybowski and the Alaska Commercial Company. That they will become fairly established in their new home there is little reason to doubt, for the fjell

[1] *Rhytina gigas* (Temm.) For the description and history of this animal vide Nordenskiöld's "Voyage of the *Vega*," Eng. trans. p. 361. According to Dr. Stejneger, the accounts given to Nordenskiöld by the natives with regard to the supposed existence of the animal up to a much later period are not to be relied upon.

country to the south is especially suitable for them, and food is abundant. Should this prove to be the case, the enterprise will be eventually of the greatest benefit to the islanders.

It was with much regret at our inability to make a more lengthened stay that we bade adieu to Nikolsky and its inhabitants. The season was getting far advanced, however, and we had decided on revisiting Kamschatka ere we finally set our faces southward. We had not as yet obtained the Kamschatkan Bighorn, of which we had so long been in search, and we were also anxious to secure some walrus; so getting on board our pet fur seal and the other natural history curiosities we had collected on the island, we weighed anchor and stood away to the S.W. for Cape Klin on the coast of Kamschatka.

CHAPTER X.

KAMSCHATKA.

Cape Klin—Walrus—Permanence of snow at the sea-level—Betchevinskaya Bay—Hunting *Ovis nivicola*—Impassability of the bush—A magnificent bag—Description and measurements of the Kamschatkan Bighorn—Natural breakwaters—Seals and bears—Lost in the bush—Return to Petropaulovsky—Unveiling of the monument to the affair of 1854—Ship's pets—Leave Avatcha Bay for the south coast—An otter-hunters' village—Method of killing the sea-otter—The peoples of the peninsula—Lamuts in Kamschatka—We leave for Japan—South-easterly gale—Encounter a typhoon—Loss of *Le Gouldec*—Another gale—Repair damages in Yokohama.

The eastern shores of the peninsula of Kamschatka are broken by three well-marked promontories:—Capes Kamschatka, Kronotsky, and Shipunsky; and it was for the latter—the southernmost—that we shaped our course. Our friend R——, the captain of the schooner *Nemo*, had recommended this part of the coast as being the best ground for wild sheep and walrus, and though he had himself hunted it on his voyage to the mouth of the Kamschatka River, we hoped that a sufficient time had elapsed for the animals to have returned to their old quarters. Nearing the land a little to the north of Cape Shipunsky, it soon became evident that the outline of the chart of this part of the coast had been traced according to the fancy of the cartographer. Instead of a nearly straight shore devoid of dangers, we found ourselves at the entrance of a fine bay nearly two miles in depth, running in a south-westerly direction. The scenery was wild and lonely-looking to a degree, but the jagged precipices and rocky islets of which it was in great part

composed were less pleasing to a sailor's than an artist's eye; and it was with a certain relief that, on the return of the lifeboat we had sent to coast the shores of the bay, we learnt that no trace of walrus was to be seen. With the prospect of bad holding-ground and no shelter to speak of, we resolved on trying farther to the north, and therefore, without anchoring, made at once for Cape Klin, our original destination.

We kept within a mile or two of the land, expecting to arrive in an hour or less, for the distance between Capes Shipunsky and Klin was barely twelve miles by the chart. We found, however, that the distances were as little to be relied on as the outline of the coast, and we had logged thirty-six miles before stopping the engines abreast of the cape. We rowed along the beach in vain in search of the game. Not a walrus was to be seen, but on nearing a little group of rocks we noticed a large mass lying upon the beach, and landed to find ourselves in the midst of a scene of slaughter which sufficiently accounted for the absence of our quarry. The crew of the schooner had evidently had good sport, for the shore was dotted here and there with the bodies of the slain, which were blown out to a gigantic size by decomposition. That there were still plenty of walrus in the neighbourhood was evident, for on our return to the ship the animals played in numbers around the boat; but, unlike the fur seal, they will not "haul up" on the shores where others of their species have been killed, and we had therefore to give up all hope of obtaining them at Cape Klin. The walrus restricts itself more or less to certain favourite spots for landing, and a random search for them along the coast would have been attended with but little success. It is nearly impossible to kill them in the water except by harpooning, for the only fatal shot—a small spot at the nape of the neck—is very rarely obtainable, and the animal, if struck there, usually sinks at once.

Our search having thus proved fruitless, there was nothing left for us but to return to the neighbourhood of Cape Shipunsky, in the hope of obtaining some of the bighorn or mountain-sheep

which, according to Jacof Ivanovitch, were to be found there in abundance. A few years previously he had visited Betchevinskaya Bay, a deep inlet ten miles to the west of the cape, and had shot several; and since, according to his account, both anchorage and shelter were to be had—a not unimportant consideration on such a coast—we again steered southward, and keeping a good offing during the night, ran in to the land and picked up our position off Cape Shipunsky at daybreak. The coast is steep-to, and as we passed close to the fine cliffs and headlands which oppose the by no means tranquil Pacific, there lay the *neiges d'antan* bewailed of Maistre François Villon,—huge patches of last year's snow, choking the gullies down to the water's edge. That they should have remained throughout the hot summer in a south-east aspect was astonishing, and gave some idea of the severity of the climate in these latitudes, but the absence of the usual autumnal rains no doubt in great measure accounted for it.

Before reaching our anchorage just within the entrance of the bay, we could distinctly make out small herds of the animals of which we were in search on the slopes of the cliffs, which here rose to a height of five or six hundred feet, precipitous in some places, but in others forming a sort of under-cliff covered with brushwood. We lost no time in settling our plan of action. Judging that the highest were confined to the promontory near which we had anchored, we resolved upon surrounding it, sending four guns to the top of the cliff, whose sea-face extended east and west for a distance of about three miles, and posting two others upon the beach below. The former, ascending in rear from the shores of the bay, reached their destinations with some difficulty, the undergrowth being so dense and strong that, but for the bear-paths with which it was cut up in all directions, it would have been impenetrable. At the edge of the cliff progression was somewhat easier, and on looking over we found ourselves in close proximity to the game. Owing to the excitability of Jacof, who had got some distance ahead, we began the day in a manner I hardly like to recall. The

wretched Russian, totally oblivious of the fact that the bighorn were possessed of quite as good eyes and ears as ourselves, danced wildly at the cliff's edge, shouting and gesticulating for us to come on. Struggling madly through the dense brushwood, hot, panting, minus portions of our clothing, and with rage at our hearts, we arrived just in time to get a couple of ineffectual shots as the game disappeared round a corner. My sporting readers will have little difficulty in realising our feelings; and as it was evident that Jacot's *forte* lay rather in hunting sables than other game, we at once sent him, like the unlucky commoner in Mr. Punch's aristocratic battue, to "take the chance of a hare back." We felt that after such a fiasco we could hardly expect or deserve success.

The fates, however, were more propitious than the most sanguine of us had dared to hope. Before mid-day I had bagged three bighorn, and, as I afterwards learnt, most of the other guns had been nearly as fortunate. Anxious to get the game on board before nightfall, I started for the yacht, and wishing to save myself the long round by the top of the cliff, attempted to cross an intervening belt of fir-scrub in order to reach some open grassy ground farther inland. I soon found that the task was far more difficult than I had imagined. The thicket was of old growth, and covered the ground breast-high, the surface everywhere being perfectly level. Contrary to what is usually seen near a coast, the branches grew seawards, and interlacing in every direction, formed a dense mat through which it was almost impossible to force one's way. I had barely gone ten yards before I became jammed in a position from which I extricated myself only with the very greatest difficulty. As I progressed the bush became, if anything, more impassable. Cumbered with a heavy rifle, and already somewhat tired with the morning's exertions, I got gradually more and more exhausted. My legs became constantly wedged in the forks of the branches which were too tough to break, and with my feet scarcely ever upon the ground, I fell again and again, lying where I fell from sheer fatigue. The little strip of bush was barely a hundred yards

across, yet, absurd as it may seem to those of my readers who have had no experience of the denseness and impassability of the vegetation in these and similar regions, I more than once wondered if I should ever get through. I have certainly never been more completely exhausted than when I finished the last yard and rolled helplessly upon the grass on the other side.

After a rest on board the yacht I rowed along the coast to pick up the game, two of which had rolled down five or six hundred feet upon the beach below. Passing beneath the cliff at the entrance of the bay, we witnessed the death of a bighorn under unusual circumstances, for the animals are in general as sure-footed as a chamois. A couple of them had been driven into a corner by some of our party at the top of the cliff, but one broke back almost immediately. The other, perched on a little pinnacle at the edge of the precipice, seemed about to follow its comrade, but hesitated, turned, and ran back. As it did so its foot slipped. It checked itself for a moment, slipped again, made one desperate effort to regain its footing, and was over in an instant. The creature never moved a muscle as it fell, and hit the rocks four hundred feet below with a dull scrunching thud, breaking one of the massive horns short off, and converting the hind quarters into a shapeless, bleeding pulp.

Before dusk we had got on board no less than nine bighorn, and the yacht's decks were more like a butcher's shop at Christmas than anything else. We were busily engaged in measuring, skinning, and weighing during the evening, and when, wearied with the day's exertions, we turned in for a well-earned night's rest, we looked forward to the prospect of equally good sport on the morrow.

The general colour of the Kamschatkan Wild Sheep (*Ovis nivicola*, Eschscholtz) is a brownish grey, and the hair of those we obtained was very long and thick, so much so that we concluded that the animals had assumed their winter coat. The head and neck are more distinctly grey than the rest of the body, the forehead

is marked with an ill-defined dark patch, and the lips are nearly white. On the anterior aspect the legs are of a dark glossy brown, but posteriorly a narrow white line runs down the entire length

KAMSCHATKAN BIGHORN. (*Ovis nivicola.*)

of the limb. The tail is short and dark brown; the rump and the centre of the belly pure white. The ears are remarkably short.[1]

The Bighorn in Kamschatka appears especially to frequent the

[1] Sir Victor and Mr. Basil Brooke in their article on Asiatic Sheep in the "Proceedings of the Zoological Society" (1875, p. 509), remark on the resemblance of the horns of this species to those of the American Bighorn (*Ovis montana*), with which, indeed, it has by some naturalists been regarded as identical. But the uniformly smaller size of the head, the shortness and great breadth of the skull in its anterior aspect, the slight development of the pre-orbital fossa, and the protuberance of the orbit itself, serve markedly to distinguish the Kamschatkan species. The horns are less rugose than those of *O. montana*; their frontal surface is convex; the orbital surface at first concave, then flat, thus causing the fronto-orbital edge to be very sharp. The nuchal surface is convex, and afterwards flattened, and the two remaining edges are rounded.

precipitous slopes of the sea-cliffs, though it is met with in some numbers in the interior of the peninsula. We had evidence of its occurrence in the mountain ranges near Gmal and Narchiki in the

SKULL OF *Ovis Nivicola*.

The following are the measurements obtained from a series of nine skulls :—

	Inches.								
Length of skull	10½	10½	9½	10½	10½	9½	10½	10½	...
Breadth between orbits . . .	5⅛	5½	4⅛	5½	5½	5½	5½	5½	...
Length of horns round curve . .	35	34½	24	32½	35½	28	32½	26½	35
Circumference of horns at base .	13½	14½	13	14	14	13½	13½	12½	13½
Horns from tip to tip . . .	21	25	17½	21	26½	26	22½	21½	25½

Measurements in the flesh of twelve specimens, all of which were adult males, were also taken, and are as follows :—

Supposed age (years)	3	3	5	5	5	5	6	6	6	6	6	6
Extreme length .	65½	63	62	64	64	66	66	65	66	66	67	67
Greatest girth . .	53	53	56	54	55	...	56½	...	54	63	54	55
Height at shoulder .	38	39	38	39½	37	...	40	41	40	37	40½	39

Bolcheresk Valley, and it probably exists at low altitudes on the great volcanoes near the mouth of the Kamschatka River. Every one of those we shot was a male,—their ages ranging, as far as we could judge, from three to six years. They kept in small herds of from three to nine individuals. As in the case of others of the same genus, the females and young males doubtless keep apart, but we were not fortunate enough to discover their habitat, neither could we obtain any information about them from the natives.[1]

Early next morning the most enthusiastic of our party proceeded in the lifeboat to the ground of the preceding day, hoping to add still further to the bag, while two of us started to explore the magnificent harbour at the entrance of which we lay. Betchevinskaya Bay, the position and extent of which is but roughly indicated in the Russian charts, is a narrow inlet some five miles in depth, girt with precipitous cliffs of three or four hundred feet for the seaward third of its extent. At this point two low and narrow strips of beach run out from the base of the cliffs on either side, leaving a passage barely fifty yards in width in the very centre of the fjord, but deep enough to admit a vessel of the largest size. Within this the cliffs disappear, and an extensive and perfectly land-locked basin is entered, surrounded by high hills sloping gradually to the water's edge—as good a harbour as it is possible to imagine. Of the mode of formation of the two promontories I have just alluded to I can offer no explanation. They are so unnatural in appearance, and so closely resemble artificial breakwaters, as at once to attract the notice of the most careless observer. The long spit of beach running out at the entrance of Petropaulovsky harbour is of exactly similar formation, and the same phenomenon is said to occur at other places along the coast. Nature is not very lavish of her harbours on these shores, but the few that exist are excellent.

As we entered, the placid surface of the inner basin was dotted in every direction by the square black heads of seals, of which

[1] Cf. article by the author *On Ovis nivicola*, "Proc. Zool. Soc.," 1885, p. 675.

there appeared to be enormous numbers. But as we intended to try for bear at the head of the bay we left them in peace. The wind, however, sprang up and blew directly inland, and all chance of sport being under these circumstances reduced to a minimum, we reluctantly returned. That bear were very abundant in the neighbourhood was evident from the numberless fresh tracks, and from the fact that we saw seven in two days, but owing to their shyness and the dense undergrowth they frequent, they are not easy to shoot. We had therefore to turn our attention to the seals, whose skins Jacof seemed anxious to obtain. They were the ordinary *Phoca vitulina* of our own coasts, or a very closely-allied species.

Landing on the natural breakwater on our way back, we were astonished to find a spring of fresh water close to its extremity. The pools formed by it were covered with teal and other duck, and with these and a stray golden plover or two we had good sport. The place seemed to be a favourite resort of bears, who had formed numerous paths to the spring; but ill-fortune once more attended us, and we had to be content with a distant view of one of these animals, who made off at full speed. We returned to the *Marchesa* to find that considerable additions had been made to the bag by the other party. Four more *Ovis nivicola* and a walrus had been killed, the latter carrying very fine tusks, nearly two feet in length. Hunting these creatures is after all but a sorry business. In order to afford sport an animal should either fight or run away. The poor walrus does neither—at least to any purpose—and having once killed one, no sportsman would care to repeat the performance.

I have been led to describe the events of our two days' visit to Betchevinskaya Bay as an illustration of the abundant sport to be obtained in Kamschatka. Our total bag consisted of one walrus, fourteen bighorn (one, falling in an inaccessible place, was not brought in), and some seals, besides teal, duck, and golden plover. Had we been ordinarily fortunate we should also have obtained two bears, which, though badly hit, managed, owing to the

denseness of the scrub, to escape. We found the bighorn meat delicious; it was declared on all hands that no such mutton had ever been tasted before. Our men were in their element salting down and preserving, and were unanimously of opinion that there was no country like Kamschatka, where salmon, grouse, and mutton were to be had for the killing. The ship was hung with carcases, which some facetious individual had labelled with placards "FIRST PRIZE, PETROPAULSKI CATTLE SHOW"; "PRIME, 11½d. per pound"; "CUTTINGS, 6½d." and so on, and steaming joints of mutton graced the board at every meal in the forecastle mess.

It was on the evening of our second day's stay that one of our party came in for an adventure that was near having a very unpleasant ending. After bringing home the bighorn, he had started late in the afternoon for the sea-cliffs on the other side of the bay, with the intention of inspecting the ground for these animals and walrus rather than with any definite idea of shooting. The sea being quite calm, he had taken the skiff with only one hand, intending to return shortly after sunset. At nightfall they had not arrived, and after waiting a little while longer the lifeboat was manned and sent across the bay in search. An hour or so later, having heard nothing further, we proceeded in the cutter in the same direction, with extra hands in case of need. On our way we met the skiff returning, and learnt that, as we feared, our companion had no doubt lost his way in the bush. He had climbed a difficult cliff just after landing, and not liking to risk the descent, had told the coxswain of the skiff to row along the shore until he came to an easier part, and to wait for him there. It was then growing dusk, and although he had waited several hours and rowed up and down the coast firing signals—for the rifle had been left in the boat—nothing had since been seen of him. In any ordinary country we should have felt but little anxiety, as, with the sea to the S.W. and the inlet to the S.E., it would have been difficult to take a wrong course. But knowing the almost impenetrable nature of the bush upon the other side of the bay, we feared lest he should

succumb to exhaustion and exposure, for the night was bitterly cold.

It was surmised that he would most probably attempt to make his way across to the inlet—a distance of about two miles—as inland the bush was less thick, and if he could succeed in reaching the cliff he would be within sight of the ship, and would be able to make signals. Accordingly a search party of six men, provided with lanterns and ropes, started to scale the cliff, which was about 400 feet in height. It was a task requiring all the nerve of an experienced climber. Dangerous enough by day, it was ten times more so by the uncertain light afforded by the lanterns, and it was with the keenest anxiety that we watched the specks of light slowly working up the face of the precipice before us. Half way they came to a part so difficult as to be almost insurmountable, and here an accident occurred to one of the party which was within an ace of proving fatal. While springing on to a higher ledge he missed his footing and slipped back, and had it not been for the pluck and presence of mind of one of his comrades, who, although himself on a most insecure foothold, leant forward and managed to check his descent, nothing could have saved him.[1] At length, after what seemed an interminable time, they reached the summit, and the lights immediately disappeared.

It was now early morning, and we were discussing the advisability of starting with another party or of waiting until daylight, when we noticed a light at the edge of the cliff farther up the inlet. It had, however, been sighted some time previously from the ship, and a boat arrived almost immediately afterwards with another party to aid in the search. Our anxiety as to our friend's whereabouts was now at an end, but getting at him was another affair, for the cliffs at this spot were almost perpendicular, and we were forced to go some distance farther before finding a

[1] The name of the man who so pluckily risked his life deserves to be recorded. Samuel Scarff, who at a later period of the voyage became boatswain, was a universal favourite, and when in the following year he succumbed to the effects of the climate during our cruise to New Guinea, his loss was very keenly felt by all of us.

place where the ascent was practicable. Half an hour later we found him, very cold and exhausted, trying to warm himself at the fire which, fortunately for himself, he had been able to light.

It appeared that, after leaving the skiff, he had sought in vain

MONUMENT TO THE AFFAIR OF AUGUST, 1854.

for any spot where a descent was practicable, and darkness having come on, he had lost his way in one of the dense thickets I have described. After this he had steered south-east for the inlet, fighting his way through thick bush for the greater part of the distance. Although much exhausted, he dared not rest for long on account of the cold. At length, after a seven hour's

struggle, he reached the cliffs of Betchevinskaya Bay, and knew that he was safe. Fortunately there were no fir-thickets to contend with such as I had found on the other side of the bay, or the adventure would probably have had a different ending, but it will probably be many years before he forgets the night he spent when lost in the Kamschatkan bush.

On the evening of September 23rd we found ourselves once more in Petropaulovsky harbour. The Russian man-of-war *Afriko*, employed in the protection of the Komandorski group, and in surveying the coast, was in port, and also the *Alexandria*, a San Francisco steamer which pays an annual visit to Petropaulovsky to take away the furs. During our expedition through the peninsula the *Afriko* and *Vestnik* had consecrated the monument in memory of the affair of August, 1854. This monument, an obelisk about twenty-five feet high, was erected in the previous year by the *Vestnik* on the spit of land forming the natural breakwater of the harbour, the materials having been brought from Russia. It is of stone, painted black, and surmounted with a gilt "morning star" and cross. On the eastern side is the following inscription in Russian:—

IN MEMORY OF THE FALLEN

AT THE

REPULSE OF THE ATTACK OF THE ANGLO-FRENCH FLEET,

20TH & 24TH AUGUST, 1854.

And on the reverse side:—

ERECTED IN 1881.

Before the consecration the blue-jackets were marched to the little palisaded enclosure, where, under three crosses, the Russian, French, and English dead lie buried side by side. Here a long prayer was offered over the Russian graves; but when the Captain of the *Vestnik*, in deference to the presence of some of the yacht's party, desired that the pope would perform the same ceremony

over those of the French and English, he utterly declined![1] Later in the day the monument was unveiled; the crews of the Russian vessels being drawn up in line, and the royal salute fired. The affair was wound up by a déjeuner given on board the *Vestnik*, and some hard drinking by the Petropaulskians, which resulted in the death of a Cossack next day.

Nowhere has one a better opportunity of watching the habits of pet animals than on board ship, and on the *Marchesa*, where they were permitted to roam at large, causing occasionally no small amount of astonishment and alarm to our visitors, they were seldom out of our sight for long. On our return from New Guinea the yacht was little more than a floating menagerie—a happy family of cassowaries, wild pigs, kangaroos, and a host of other creatures; but northern regions are not very productive of pets, and our chief favourites at this period of the cruise were only three in number,—the fur seal; Misky, a large, but not fully adult bear presented to us by the Russian officers; and a charming little Siñhalese mongoose. The fur seal, known to the sailors as Tommy, flopped about the deck with the ungainly semi-paralysed gait peculiar to his species, choking and spluttering with mingled fear and rage when any one approached him. Every day we lay in harbour a long line was fastened to his hind flipper, to the end of which a life-belt was attached, and thus buoyed he was put overboard to swim about or go ashore as he pleased. His manner of feeding was curious, any fish he was provided with not being snapped up immediately, but played with and mouthed all over for a quarter of an hour or more, when it suddenly disappeared as if by magic. Poor Tommy was in a very feeble state of health when he came into our possession, and his death, which took place just before we left Kamschatka, was not unexpected. Though dead, he yet lives—in spirit.

[1] I should mention that the Russian officers were much annoyed at this act of discourtesy, and came on board to apologise for their countryman, whom they described as being "only an ignorant peasant."

Misky, though a great favourite with every one, was perhaps not altogether a source of unmixed pleasure to us. To an unsuspecting visitor the sight of him bearing down at a loose trot to investigate matters was anything but reassuring, and it was in vain for us to tell our guests that it was "only his fun." A gallant lieutenant coming on board one day in full dress proved too great a temptation for Bruin, who immediately seized him by the coat-tails. It was found impossible to make him let go until the discomfited officer had reduced himself to his shirt-sleeves, when, delighted with his success, the delinquent shuffled off. He was apparently almost indifferent to pain. A smell of burning being one day discovered forward, one of the crew proceeded to investigate the cause, and found Misky standing upright on the top of a nearly red-hot stove, engaged in stealing cabbages from a shelf above. He was growling in an undertone and standing first on one leg and then on the other, but he nevertheless went on slowly eating, heedless of the fact that the soles of his feet were burnt entirely raw. Endless were the stories about him, and the scrapes he got into, but punishment was apparently in vain, for he got worse as he grew older; and after having devoured portions of the cabin skylight and a man's thumb, and finished by drinking the oil out of the binnacle lamp, he was shipped to England, and found a new home in the bear-pit in the Zoological Gardens.

Misky's sworn enemy was the mongoose, into whom seven devils at least had entered. His sole object in life was mischief, and it must be confessed that he never idled for a moment. Whether biting one's toes as one lay asleep in the early morning, capsizing the ink-bottle, or bolting surreptitiously with some coveted morsel from the dinner-table, he was never still, but his greatest happiness,—for it was attended with that spice of danger which gives the true zest to sport,—was to "draw" Misky. When that unsuspecting animal was rolling his unwieldy body about on deck, ignorant of the proximity of his enemy, the mongoose would approach noiselessly from behind and nip him sharply in the foot.

Long before the huge paw had descended in a futile effort at revenge the little rascal was safely under cover, on the look-out for another opportunity, and the bear might just as well have attempted to catch a mosquito. A more thorough little pickle never existed, but, like all pickles, he was very popular, and when one morning he disappeared never to return there was great lamentation among our men. We never learnt his fate. Probably Misky had caught his tormentor after many months of vain endeavour, and had dined off him.

We left Petropaulovsky on September 26th with the intention of visiting the coast towards Cape Lopatka. Even as far south as Avatcha Bay the nights had become bitterly cold, and warned us to take our departure if we meant to avoid the heavy gales that visit these latitudes at the onset of winter. We steamed out of the harbour over a sea so calm that the glare of golden light which lit up the western sky was reflected in its surface as in a mirror. Never had the bay and its grand volcanoes looked more beautiful, and we stood watching the blaze of colour fading over the yellow birch-clad hills and the lonely pyramids of snow beyond until the last ray of daylight had disappeared and the full moon had turned the landscape to a harmony in black and silver.

Next morning a thick fog hid the coast from view, but cleared as the sun got up, and we were able to pick up our position. About noon we found ourselves off an island abreast of the Itterma Volcano, and steaming into a bay close by, we scanned the coast for signs of a sea-otter-hunters' village, of whose existence we had heard through Afanasi. Not a trace of it was to be seen, and we were beginning to think that we had misinterpreted our directions when a couple of little canoes shot out from behind a point and paddled towards us at a great rate. As these neared the ship we saw that they were built somewhat on the model of a Greenlander's *kayack*, although not broader than the narrowest of Thames cedar-wood canoes. How they can live in any ordinary sea is little short of miraculous, but we afterwards learnt from the people that two

or three boats invariably proceed in company when engaged in hunting the sea-otter, and that during heavy weather they lash them together with the paddles, by which means even a moderate gale can be safely encountered.

The natives piloted us into a small bay which, protected as it was by an island [1] and a long reef running out from the mainland, afforded fairly good shelter in all winds. At the head of it stood the village, almost invisible at a little distance, composed entirely of underground yourts, whose smoke-begrimed interiors were not inviting to a European. We had hoped to find many skins of the sea-otter here, but were disappointed, the whole village only producing two; we became possessors, however, of what, though less valuable, was of more interest,—the bow and arrows with which these animals are killed. The former is a tough piece of wood five or six feet in length, which is enormously strengthened by a band of plaited hide on the outer face, so tightly fixed as to give the bow when unstrung a curve in the opposite direction. The arrows are of wood for three-quarters of their length, fitted with feathers attached diagonally along the shaft, so as to produce a rotatory motion. The remaining portion is of walrus ivory, provided at the end with a socket, into which a barbed copper point is inserted. This is connected to the arrow by a long string of plaited sinew wound around the shaft. When the otter is hit, the barb, which is very loose, becomes at once detached, and if the animal gain the sea, its whereabouts is revealed by the arrow floating above it.

SEA-OTTER ARROW.

The canoes used by these people are of extremely graceful shape, and so light that they can be lifted in one hand with ease. They are constructed of a wooden skeleton

[1] This island, which is not marked in the chart, was named by us after Lieut. R. ff. Powell. It is in Lat. 51° 33′ N., Long. 157° 50′ E., and is about two miles in length. The coast at this part is placed too far to the eastward.

framework of the slightest possible description, covered with the skin of the Sea-Lion (*Eumetopias*), beautifully sewn. The circular opening for the occupant is very small, and the ingress of water is prevented by a sack-like skin apron which is tightly tied beneath the arms. These craft are astonishingly crank, so much so that one of our party, by no means a tyro in such matters, found the greatest

OTTER-HUNTER'S CANOE, POWELL ISLAND.

possible difficulty in sitting one, even in smooth water. They are made in three sizes,—for one, two, or three persons.

We entered into negotiations for the purchase of one of these boats, as well as our want of a common language permitted. Vodky —the curse of Kamschatka—was the one idea of the natives, and we might doubtless have bought the craft, furnished with bow and arrows and all necessary gear, for three or four bottles of this spirit, had we felt inclined, for these people would sell their very souls for brandy were they only marketable commodities. The bargain was concluded eventually for thirty roubles, but though the dealing in money saved our consciences, it probably came to much the same in the end as if we ourselves had supplied the natives with spirit. Directly the snow was sufficiently hard for sledging, the owner of

the roubles would no doubt start for Petropaulovsky, and turn them into vodky without loss of time.

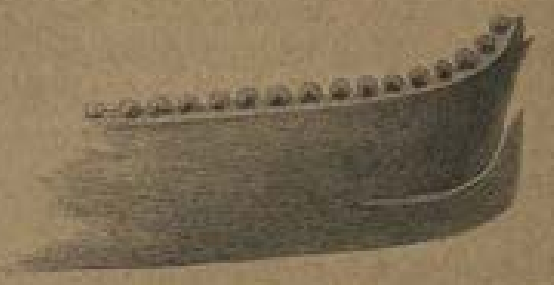
We could make out nothing about the nationality of the people of this village. We had been told that some Aleuts from the Bering group had settled in this neighbourhood, but it seems that the Kurile islanders have also passed northward, and established themselves on the coast near Cape Lopatka. To us it appeared that they did not differ appreciably from the Kamschatdale type, but the opinion of a mere passer-by on these matters is usually valueless. Nothing certain is at present known of the origin of the Kamschatdales and Koriaks—the aboriginal tribes of the peninsula. Both appear to have become greatly reduced in numbers since the Russian conquest. As a pure race the Kamschatdales are now rare, except on the western side of the country. The Koriaks rarely or never come south of the Tigil River. They are a nomad race like the Lapps, owning reindeer and living in movable tents, and, like them, coming down to the lower ground in winter. Both these tribes belong to the "Hyperborean" unclassified group, and Mr. Keane[1] considers the Koriak as probably the parent stock of the sub-arctic races of this part of the globe. Their language as shown by the vocabulary of M. de Lesseps, although bearing but a faint resemblance to the Kamschatdale, is closely allied to that of the Tchuktchi tribe in the region of the Anadyr, and it is possible that, ethnically as well as geographically, they form a connecting link between these two latter peoples.[2]

I am not aware that the presence of Lamuts in Kamschatka has ever been recorded by previous writers, but while on our journey through the country we were told by Afanasi Waren

[1] "Asia." Stanford's Compendium of Geography and Travel.

[2] The accidental immigration of Japanese must be regarded as a not unimportant factor in the composition of the Kamschatdale race. Short as is the period that has elapsed since the Russian conquest, it has furnished several instances, recorded by Krasheninikov, of Japanese junks having been driven from their course and wrecked on the shores of the peninsula. This chance peopling of the country has, no doubt, been going on for centuries, and it is probable that but few of the immigrants ever regained their native land.

who was well acquainted with both the Koriaks and Kamschatdales, that a small number of this race lived in the mountains in the heart of the peninsula. He described them as a fjell people, great hunters of *Ocis nivicola*, and owning reindeer, which they occasionally brought in for sale to Melcova and other places on the Kamschatka River. That the Lamuts, who are of Tungus race, should have established themselves in such an isolated position is curious, but we had no reason to doubt the accuracy of Afanasi's information. De Lesseps in his "Travels in Kamschatka" gives a vocabulary of the Lamut language, but, as he mentions nothing of this people in the peninsula, it is most probable that it was obtained in passing through their country in the neighbourhood of Okhotsk and the Judoma River, on his return to St. Petersburg.



BOW OF KURILE CANOE.

On the 27th we bade a final adieu to Kamschatka. We had more belief in the cold southerly current than in the continuation northwards of the Kurosiwo, of which we had vainly endeavoured to take advantage in our voyage from Japan; and we accordingly set our course for that country so as to keep a few miles only to the eastward of the Kurile chain. Had we known what was before us we should probably have given the land a wider berth. We had no idea that we were destined to come in for two gales and a typhoon before we reached the welcome shelter of Yedo Bay.

We steamed on quietly enough against light to moderate southerly winds until the morning of September 29th, when we experienced a gale from the south-east, which increased in force as the day wore on. At 6 P.M. we altered course, and stood in towards Simusir Island until midnight; a high sea running and the vessel pitching heavily. The wind then slackening somewhat, and veering

to south-west, we kept away on the other tack. By the afternoon of the 30th the gale had practically blown itself out, and we resumed our original course with a fresh breeze from the north-west.

Early next morning the wind had fallen so light that we had to recommence steaming. At noon we were in Lat. 44° N.; Long. 148° 44′ E.; the barometer standing at 30·42 inches. In the afternoon we sighted Eturup or Staten Island, the penultimate and largest island of the Kuriles. It had fallen a "clock calm" in sailor language, and all hands found it a great relief after the knocking about we had experienced during the two preceding days. It was not for long, however. During the afternoon a uniform grey haze came over the sky, and a large halo was noticed round the sun. An ominous, long swell came up from the southward, and at 8 P.M. an easterly breeze, accompanied by sharp showers of rain, prepared us for the onset of a dirty night. The barometer had begun to fall at 4 P.M. We had hoped to reach Akishi Bay, on the coast of Yezo, early the following day, but through the night the weather grew steadily worse, and at 5 A.M., the wind having increased to a strong gale, and the weather being far too thick to attempt to make the land, we altered course to S.W. by W., being then, by dead reckoning, 16 miles off Cape Usu, the easternmost promontory of Yezo. An hour later the wind backed to E. by N., the rain descending in sheets; and taking everything into consideration, we concluded that we had fallen in with a typhoon travelling north-eastwards, an unusual phenomenon in such high latitudes.

By 8 o'clock the *Marchesa*, under storm canvas, was running before the heaviest gale she had yet encountered, in the endeavour to get as much sea-room as possible. The law of these circular storms is so well known and so invariable that, under ordinary circumstances, there is no difficulty in handling a ship so as to bring her as quickly as possible out of the track of the hurricane. But here our proper course—west—was impracticable on account of the land, and we were driven into the unpleasant alternative of having, in all probability, to meet the centre of the storm.

Just at this time an accident occurred which cast a gloom over the whole ship. The jaw-rope had carried away, and Charles Le Gouidec, a Frenchman from Havre, and one of our best hands, was engaged in overhauling the throat halyards when, getting hold of the wrong part, and the rope overhauling too rapidly, he came down with a run, and hung suspended for a moment about fifteen feet above the deck. The ship was rolling heavily, and a sudden lurch to port loosening his grasp, he fell, and striking the bulwark, was overboard in an instant. From the very moment of the occurrence it was evident that no human power could save him. No boat could have been launched in such a sea, and although we shortened sail and put the helm over without delay, we could not even get the vessel head to wind, and in spite of the engines being at full speed, were driven back into the wash of our own screw. The spin-drift on the water was so great, and the weather so thick, that objects could not be seen at the distance of the ship's length, and the poor fellow had been lost sight of immediately. Reluctantly therefore we gave up all hope, and the safety of the yacht having to be considered,—for we ran considerable risk of having our decks swept,—she was again kept away, her course being altered to S.W. by S.

The loss of a man at sea always comes with more or less of a shock to the most thoughtless of us, even if we be merely passengers on an ordinary liner. But when it occurs among those who have been comrades for months together, and we realise that there will be a gap among the familiar faces that greet us as we walk forward to the fo'c'sle every morning, we feel it far more than many who regard a sailor as being merely an animated unit of the ship's machinery would imagine. It was long, I think, before any of us began to grow accustomed to the loss of poor "French Charlie."

We had other things to think of at the moment, however. At 10 A.M. the wind had backed still further to E.N.E., and the glass was falling more rapidly. We concluded that we were probably not far from the storm centre, and a couple of hours later, as we

had anticipated, the wind which was by that time N.E. had moderated considerably. In a short time it had fallen almost to a dead calm. A tremendously confused sea was running, apparently from the meeting of waves from the N.E. and S.E., and the water shot up in all directions in huge fountains in a most extraordinary manner.

At 1.30 the calm was broken by a fresh breeze which sprang up from the S.E., gradually backing to N.E., and blew so steadily that it might have led a landsman to the conclusion that the hurricane was over. But the still falling glass told another story, and we knew that, in all probability, the worst was still to come. Both the aneroid and the mercurial barometers at this period exhibited a curious phenomenon which is occasionally noticed at the time of a typhoon. The needle of the former flickered constantly, and the mercury rose and fell in a peculiar manner not due in any way to ordinary "pumping," and hitherto not seen during the earlier part of the storm. It was a suggestive and not very pleasing sight, and indeed the period of calm during which we awaited the commencement of the second act of Nature's performance was anything but agreeable.

At 5.30 P.M., the vessel being as nearly as we could judge in Lat. 42° N., Long. 144° 46' E., the barometer stood at its lowest point (28·77 inches), and shortly afterwards began to rise. The N.E. wind had died away, and the weather was somewhat clearer. Suddenly, however, a thick black haze appeared in the N.W. advancing with great rapidity, and in less than two minutes we were in a gale. By a quarter past six it had increased to a hurricane. No defined limit between air and water seemed to exist. At first the terrific violence of the wind seemed almost to beat down the confused but heavy sea that was running from the eastward, but it was not long before we were flying through the water before a tremendous following sea. The wind appeared to hurl off the tops of the waves *en masse*, covering the yacht from stern to stem with continuous sheets of water, and as it was evident that

we could not long continue running before the gale without great risk, the ship was at once hove to,—an operation which was fortunately accomplished without accident. At 9 P.M. the barometer was rising steadily, and the wind had moderated to a strong gale, which blew throughout the night from between N.W. and W. by N. On the morning of October 3d it had dropped still more, and although still blowing heavily, we were able to resume our course for Yokohama, thankful that the typhoon was over.

We were not destined to reach port without further misadventure, for on the 6th we came in for some bad weather and heavy overfalls, which carried away still more of our already damaged bulwarks. The steadily-falling barometer made us fear another gale, which, with the little sea-room we had, would have caused us some anxiety. Fortunately, however, we escaped it, and anchored off the English *hatoba* on the evening of the same day. The *Marchesa*, though showing evident traces of the severe weather she had experienced, was not materially the worse for it, but it was evident that some little time would be necessary for repairs. Besides minor damages to the sails and rigging, the bulwarks on the port bow had been carried away for the distance of thirty feet or more, and we had lost our lifeboat,—the heavy iron davits supporting it being twisted like a piece of wire. The bridge had become loosened, and it was found necessary to replace it by another; and various repairs of less importance had to be undertaken. It was with no little pleasure, accordingly, that we prepared ourselves for four months' travel in the less visited parts of the kingdom of the Mikado.

CHAPTER XI.

HISTORY OF KAMSCHATKA.

First conquests to the east—Yermac Timovieff—Conquest of Kuchum Khan—The Russians reach the Amoor—Settle at the Amalyr—Theodot discovers Kamschatka—Invasion and conquest of the peninsula—Mutiny of the Cossacks—Bering's first voyage—Discovery of Bering's Straits—His second voyage abortive—Rebellion of the Kamschatdales—Bering's last voyage—Exploration of the Alaskan coast—Discovery of Bering Island—Wreck of the *St. Peter*—Death of Bering—The survivors reach Kamschatka—Return of the *St. Paul*—Death of De la Croyère.

It is a singular circumstance in the annals of Geography, that at the very beginning of the sixteenth century the far distant Spice Islands should have been in the hands of the Portuguese, and New Guinea already discovered, while Siberia proper remained utterly unknown, in spite of its proximity to civilisation. Yet, at the present day, after a lapse of three centuries and a half, when the interior of New Guinea is still a sealed book to us, Siberia, notwithstanding the severity of the climate and the difficulties of travel, offers few problems to the explorer that have not long ago been solved.

The history of the conquest of Siberia is interesting from its extreme rapidity. At the time just mentioned the Tartar tribes extended to the north-west almost as far as the district of Archangel, and traded in furs with Russian merchants who, more adventurous than the rest, had settled themselves on the outskirts of the territory of the Czar. The large fortunes amassed in this commerce attracted attention, and shortly afterwards an expedition was despatched during the reign of Ivan Vassilivitch II., the effect

of which was to render tributary many tribes between the Petschora and the Obi. Although the invading force scarcely passed the Ural range, and its effect was rapidly lost by the second conquering of the same tribes by a descendant of Yenghis Khan, the Czar was more fortunate to the south, and having subdued the Tartars of Astrakhan and the Volga, he somewhat prematurely assumed the title of Lord of all Siberia in 1558.

About this time a certain Yermac Timovieff came into notice. He was a Cossack of the Don, and at best little more than a robber chief, who, at the head of six thousand men, had been beaten by the forces of the Czar and driven from the country. Retiring to the north and east, he came into contact with Kuchum Khan, whose dominions extended over a vast tract of country in the region of the Irtish and the Obi; and though his forces had been considerably reduced, he formed the bold project of conquering that monarch and establishing for himself a new kingdom in western Siberia. The result was a complete success. The deciding battle was fought close to where the town of Tobolsk now stands, and though Yermac's forces numbered scarcely fifteen hundred men, his victory was complete, and the Tartars were routed with great slaughter. From this moment the tide of fortune was uninterrupted. The neighbouring tribes at once submitted, and in 1579, after barely two years' wanderings, the exiled robber found himself transformed into a powerful monarch.

His further action shows him to have been as far-seeing as he was bold. Backed by a mere handful of his own men, he could not hope to retain the crown without assistance, and that assistance could only be obtained from the Czar. To him accordingly he offered his new kingdom, stipulating for immediate aid. The Czar accepted, pardoned Yermac, and sent a body of five hundred troops to the Irtish, where Kuchum Khan was still giving some trouble to his successor; and thus Russia laid the eastern foundation of the vast empire which now bounds one half of the circumference of the Polar Sea.

The history of the further conquest of Siberia is of no very great interest. Shortly after the arrival of the Czar's forces Yermac was surprised by a body of Kuchum Khan's adherents, and was drowned in his attempt to escape, and the Russians were for the time being driven out of the country. It was only for a brief period. They returned in greater strength, and rapidly reduced the Tartars to submission. Thenceforward their progress eastward was almost unchecked. The rude tribes were unable to stand against the superior discipline and arms of the more civilised nation, and in less than a century the Muscovite and the Celestial faced one another in the provinces of the Amoor. The hostilities that ensued were not of long duration. The Czar was wise enough to foresee that a protracted war with such a powerful nation as the Chinese could by no possibility end in his favour, and ultimately a treaty was signed at Nerchinsk in 1689, by which a system of commerce was established between the two nations, and the advance of the Russians checked in south-east Siberia.

No such check had, however, occurred in the north-east, and even before the Nerchinsk Treaty the Russians had established themselves at Anadyrsk,—practically, although not actually, the Ultima Thule of the Asiatic continent. Here a fort was built, and a governor appointed, who was instructed to collect the tribute of furs from the natives, and to inform himself of the countries beyond and to the south of his district. At that time the half-fabulous Strait of Anian was the supposed boundary of Asia, and Kamschatka, of which the Russians had only dimly heard through the medium of the natives, was believed to be joined to the northern portion of Japan. The existence of Bering's Straits was not proved until nearly forty years later, but hardly a tenth of that time had elapsed before the Cossack troops had penetrated the peninsula and built a fort at Werchni Kamschatka, in the very heart of the country.

To whom the honour of the actual discovery of Kamschatka is due is a disputed point, but the claims of one Theodot, a Russian

trader, seem to rest upon something more than mere tradition. This individual is said to have sailed down the Bova River to the Polar Sea, and to have made his way thence by way of Bering's Straits to Kamschatka. Here he wintered, and in the following summer rounded the southern point of the peninsula, and entered the Sea of Okhotsk. He is said to have been killed by the Koriaks on his return overland to Anadyrsk, or to have died of scurvy, but the accounts of the expedition are both scanty and uncertain, and nothing was known of the country he was said to have discovered until the end of the seventeenth century.

In 1697 Vladimir Atlasov was sent from Yakutsk to take the command of the district of Anadyrsk, and in the following year he despatched Luka Moroskoi, a Cossack, with a guard of sixteen friendly natives, to collect the tribute from the country lying to the south. On their return they reported that they had penetrated the north of Kamschatka, and Atlasov, tempted by their description of the country, resolved on conquering it without delay. He accordingly started with a force of sixty Cossacks and about the same number of natives, and sending half under Moroskoi towards the Pacific, he marched southwards to the River Tigil. He met with but slight resistance from the Kamschatkans themselves, but his own natives revolted, and killing three of his Cossacks and wounding several others, they were with difficulty overpowered. Atlasov effectually prevented the recurrence of such an event by putting the remaining rebels to death, and notwithstanding the greatly reduced number of his followers, eventually reached Tigil, where he effected a junction with the second party under Moroskoi. The indomitable courage and resolution with which this mere handful of men ventured into the midst of a hostile nation, in a country which is one of the wildest and most impassable in the world, is worthy of the highest admiration. In spite of having reduced the tribes at the north of the peninsula, they had no thought of return. From Tigil they marched to the Kamschatka River, and ascending it almost to its source, built a fort upon its banks,

where the village of Werchni Kamschatka now stands. This was garrisoned with fifteen Cossacks, and the remainder of the force returned in safety to Anadyrsk after an absence of two years.

The tribute obtained as the result of this expedition was a very valuable one, consisting of over three thousand sables in addition to other furs. This booty Atlasov himself conveyed to Moscow, and, as a reward for his services, was made Chief of the Cossacks at Yakutsk, and ordered to return at once to Kamschatka. Unfortunately for him, he fell into temptation by the way. A Russian merchant was unlucky enough to meet his party, and proved too tempting a morsel for the conqueror of the peninsula. The predatory instinct prevailed, and Atlasov eased him of the Chinese goods with which he was returning laden. Justice, however, seems in this case to have overtaken the delinquent rather more rapidly than is usual in the dominions of the Czar. He was at once seized and thrown into prison, where he remained for nearly five years.

During this period affairs in the newly-conquered country were by no means progressing as smoothly as might have been expected from the ease with which it had been annexed. Forts had been built both on the Yelofka River and where Nischni Kamschatka now stands, but the natives had given much trouble, and had killed several of the tax-gatherers, while the garrison of the upper fort, after remaining there for three years, had been murdered to a man on their homeward march to Anadyrsk. Upon the return of Atlasov, however,—for he had been invested with full authority, as before, on his release from prison in 1705,—a force was at once despatched to punish the rebels, and the Cossacks for the first time appear to have reached Avatcha Bay, where they encountered a body of eight hundred Kamschatdales. Certain of victory, the latter had provided themselves with ropes to secure their prisoners, but though the Cossacks were taken by surprise and greatly outnumbered, they eventually gained the day, and the natives were put to flight with great slaughter.

The Russians were now permanently established in the

peninsula, and as they had been much increased in strength by reinforcements sent from Yakutsk, the tribute levied on the natives became more valuable. But the lawless nature of the Cossacks effectually prevented a peaceful settlement of the country. Atlasov, who was probably no worse a character than his subordinates, openly appropriated the Government tribute, and was guilty of such gross cruelties to the natives and his own Cossacks that the latter seized and imprisoned him in 1707. Intelligence of the rebellion having reached the Yakutsk authorities, Peter Tcherekov was at once despatched to restore order, but the difficulties of travel and other causes combined to delay him, and it was not until two years later that he reached Kamschatka. Shortly afterwards he was joined by Joseph Mieronov, who had been sent to supersede him; and thus, in 1711, there were no less than three governors in the country at the same time. This *embarras* of rulers did not trouble the mutineers long. Tcherekov and Mieronov were murdered by their Cossack guard, and Atlasov met his fate at the hands of his own men—a punishment which, it must be confessed, he only too richly deserved.

The mutiny was indirectly the cause of further discoveries in the peninsula. The Cossacks became so afraid of the consequences of their crimes that they resolved, if possible, to expiate them in the eyes of the authorities by marching against the natives in the south-west, who had hitherto refused to pay tribute. At the same time they sent a letter to Yakutsk, accusing the murdered men of having systematically embezzled the tribute. Their expedition was completely successful. They descended the Bolchaia-reka, destroyed several of the fortified villages, killed great numbers of the natives, and finally built a fort upon the present site of the settlement of Bolcheresk. The natives were thus completely reduced, and the mutineers added further to the knowledge of the country by visiting the most northern of the Kurile Islands—on which no Russian had ever previously landed—and compelling the inhabitants to pay tribute.

Onsiforov, the ringleader of the mutineers, returned to the Kamschatka River in 1712, and partly in consequence of these services, partly, no doubt, because of the strong force by which he was attended, his various misdeeds were passed over in silence, and he was again employed in expeditions against the natives. The country was at this time in a condition of the greatest insecurity. The Cossacks, under little or no control, killed and pillaged the Kamschatdales at every opportunity, and the tax-gatherers were constantly murdered in retaliation. Frequent mutinies took place, and from the state of anarchy into which the country had fallen, no tribute reached Yakutsk between the years 1707 and 1714. The exploration of the country nevertheless continued. More of the Kurile Islands were discovered, and in 1715 communication by sea was established between the ports of Okhotsk and Bolcheresk, which led to the discontinuance of the overland route to Yakutsk *viâ* Anadyrsk. Not only was the former far more direct and rapid, but it was also attended with much less risk; the attacks of the hostile Koriaks and Tchuktchis, which rendered the sledge journey extremely dangerous, being thereby avoided.

Hitherto the attention of the Russians had chiefly been engaged in the investigation of the country lying to the south of Anadyrsk. But the question of the continuity of Asia and America had long been occupying the mind of Peter the Great, who was at that time Czar, and he resolved that an expedition should be undertaken with that aim. Accordingly, with his own hand, he drew up instructions, in which he ordered that ships should be constructed in Kamschatka, that they should direct their course northwards with the object of setting at rest the question of the existence of a strait between the two continents, and that they should endeavour to extend the Russian dominions wherever possible. Before further action had been taken the reign of Peter the Great was terminated by death, but the Empress Catherine, on coming to the throne, at once proceeded to carry out the instructions of the Czar. In 1725 the first expedition started, and Bering

commenced his career as a discoverer, which was destined sixteen years later to be brought to such a melancholy end on the island that now bears his name.

Vitus Bering, a Dane born in Jutland in 1680, who had been for many years in the Russian service, was chosen as leader of the expedition. He had already made voyages both in the East and West Indies before seeking his fortune under the Czar, and had afterwards made himself conspicuous during the Swedish war, for which he had been promoted. Martin Spangberg and Alexei Tschirikov accompanied him as lieutenants, and the party, having been provided with a number of skilled workmen for the construction of the vessels upon their arrival in Kamschatka, set out from St. Petersburg on the 5th of February, 1725. The spring and summer were passed in making their way eastward by the Irtish, Obi, and Yenisei, and they finally went into winter quarters at Ilimsk to the north of Lake Baikal, where they collected stores in readiness for the continuing of their journey on the breaking up of the ice. The spring of 1726 found them at Yakutsk, where, owing to the difficulties of the roads and lack of sufficient transport, they were obliged to divide forces in order to reach Okhotsk. Spangberg took the river route by the Aldan, Maja, and Judoma with the heavy baggage; Bering went by land; and Alexei Tschirikov followed later with the rest of the enormous supply of provisions, with which the nature of the country whence they were to sail obliged them to burden themselves. Bering reached his destination safely, but misfortune befell the river party from the very beginning. Owing to the weight of their baggage and the rapidity of the current, the ascent of the stream was a matter of much greater difficulty than had been anticipated, and at the end of October Spangberg was caught by the ice in the Judoma River, and compelled to undertake the rest of the journey by land. Not only was the duration of the expedition thus much lengthened, but the party underwent such terrible privations that they were reduced to living upon their boots and leathern belts. It was not until July,

1727, that the whole of the *personnel* and baggage of the expedition were once more together in Okhotsk.

Meanwhile Bering, who had arrived in the previous summer, had not been idle. The route by sea across the Gulf of Okhotsk to Bolcheresk had been decided on, but there was no vessel in which to make the passage. Undaunted by the difficulties which encountered him, Bering set to work to build a craft with the aid of the carpenters he had brought with him from Russia. It was christened the *Fortuna*, and at the end of June was ready to convey the first detachment of the expedition to Kamschatka. This consisted of the shipbuilders and others needed for the construction of the vessel intended for his great voyage, and on their arrival at Bolcheresk they at once proceeded to the mouth of the Kamschatka River, where she was to be built. Bering himself followed later, and travelling by dog-sledge, ultimately reached Nischni Kamschatka at the close of the year. The winter was employed in the preparation of timbers for the vessel; her construction proceeded rapidly during the spring, and on the 20th of July, 1728—three years and a half after the expedition had left St. Petersburg—Bering's first voyage of discovery commenced.

The results of that voyage are too well known to need a lengthy repetition. Clearing the mouth of the Kamschatka River, the course of the *Gabriel* was set to the north-east along the Asiatic coast, which was roughly charted. On the 10th of August the island of St. Lawrence was discovered, and five days later they rounded a cape in Lat. 67° 18′ N.,—now Cape Serdze Kamen. Here the coast trended suddenly to the west, and concluding from this, and from the fact that no land was to be seen to the north, that he had proved the existence of a strait between the two great continents, Bering ordered the return. On the 20th of September the *Gabriel* once more entered the mouth of the Kamschatka River.

For the second time the members of the expedition went into winter-quarters at Nischni Kamschatka, resolving, if possible, again

to examine the shores of the supposed straits as soon as they should be free of ice in the following summer. They left the river for this object on the 5th of June, 1729, but owing to the continued prevalence of strong north-east winds, against which the *Gabriel* could make no headway, the main idea of the voyage was abandoned, and Bering made for Okhotsk, whence he proceeded overland to St. Petersburg. His second voyage was thus neither successful nor disastrous. The third, and final one, was both.

It was during the absence of Bering that an event occurred which, but for a fortunate accident, would in all probability have resulted in the murder of every Russian in Kamschatka. The natives had for a long time cherished the idea of ridding themselves of their conquerors by a preconcerted rising throughout the country. In 1731 a more favourable opportunity presented itself than they could have anticipated. The departure of Bering and his people had cleared the Kamschatka of the most formidable body of their enemies, and the Russian forces in the peninsula had been still further weakened by the absence of a great number of Cossacks, who, under Captain Paulutsky, had been sent to the north to suppress a rebellion of the Tchuktchis. At the same time the commissary Shacurdin sailed from the Kamschatka River for Anadyrsk in charge of the annual tribute. The moment was seized by the Kamschatdales, who throughout the country were in readiness for the revolt. They sailed up the river, killing every Cossack they encountered, and Nischni Kamschatka was carried in the night by surprise. Every soul was massacred, with the exception of two or three who made their escape under cover of the darkness, and paddling down the river, eventually reached the coast. Here, to their great joy, they found the two vessels which had left for Anadyrsk, but had been compelled to return by strong head winds. Measures were immediately taken to regain possession of the fort. The leaders of the rebellion were Harchin —a Toyune or chief of the Yelofka River district—and a Kluchi Kamschatdale named Chugotchi. The village of Nischni had fallen

to Harchin's forces, and Chagotchi, having murdered all the Russians in his own district, marched to join him. Hearing of the return of Shacuadin's ships, they entrenched themselves in the fort and awaited the Russian attack. It would have been better for them had they accepted the terms offered by their opponents, but they refused to surrender. The place was retaken with great slaughter. Hardly a man escaped alive, and thus the revolt, which at one time bid fair to spread throughout the peninsula, was checked almost at its outset. It was the last struggle engaged in by the natives, and thenceforward the country remained in a condition of uninterrupted peace.

It was not until 1732 that proposals were made for the despatch of another exploring expedition to the far east. They emanated from Bering himself, who, with his two lieutenants Spangberg and Tchirikov, was anxious to push across to the American coast, and trace it northward to the strait that now bears his name. Another point too remained to be elucidated. To the south-east of Kamschatka in the charts of Delisle and others of that day an appearance of land was indicated, and described "*Terre vue par Jean de Gama, Indien, en allant de la Chine à la nouvelle Espagne.*" It was intended to search for this mythical land before proceeding to America,—an intention that, unluckily for the fate of the explorer and his comrades, was ultimately carried out,—and emboldened by the success of his earlier voyages, Bering ventured to lay his proposals before the Empress.

They were at once acceded to, and Anne, who appears to have been as anxious to extend the dominions of Russia as her predecessor, resolved upon a simultaneous system of exploration over a vast extent of country. Special attention was to be directed to the possibilities of a north-east passage along the coasts of the Polar Sea. Eight additional lieutenants were appointed, of whom three were to be engaged in this work. Spangberg was to proceed to Okhotsk, where two ships were to be built to enable him to reach Japan, while the two needed for Bering's voyage were also to be

built at the same place. Meanwhile Central Siberia was to be explored as much as possible until all was ready for the final departure of the ships from Okhotsk, and a strong staff of scientific men were appointed by the Imperial Academy of Sciences, together with six students to assist them. Few expeditions have been so favoured in this respect. Gmelin, the celebrated naturalist, then Professor of Chemistry, undertook the various branches of natural history; Louis Delisle de la Croyère, Professor of Astronomy, offered himself in the interests of that science; and Müller, to whom we owe the narrative of the expedition, charged himself with the ethnology and history of the several countries it was intended to explore.

The various individuals engaged in this extensive, and, as it seemed, almost hopeless task, left St. Petersburg early in 1733. To the work of those detailed for the investigation of the north-east passage I need not here allude. It is sufficient to say that it was for the most part unsuccessful, and that the attempt to reach Kamschatka from the mouth of the Lena, by way of Bering's Straits, also resulted in failure. Spangberg proceeded without delay to Okhotsk, and commenced building the vessels. Bering remained in Yakutsk to hasten the progress of the stores, and during the long period that was necessary for the completion of the preparations for the two voyages, the scientific staff occupied themselves in the investigation of the lesser known parts of Central Siberia. De la Croyère remained for some time in the region to the south of Lake Baikal, while Muller and Gmelin worked in the Upper Lena district. Neither of the latter, however, was destined to accompany Bering in his final voyage. The years crept slowly on, and seven had passed away since the departure from St. Petersburg before the vessels were finished, and ready to put to sea. Meanwhile Gmelin, wearied of the delay, had demanded his recall. He was replaced in 1738 by Steller,[1] and as Muller's impaired health early forbade

[1] Steller, who was born in 1709 at Windsheim in Franconia, early showed an inclination in the direction of natural science. He studied at Leipsic, Jena and

his risking the hardships of exploration in Kamschatka, which was his original destination, the student Krasheninikov proceeded thither in his place. It is to him that we owe the first scientific account of the newly-conquered country.

In the month of June, 1738, Spangberg set sail from Okhotsk with two ships—the *Hope* and *Archangel Michael*—on his voyage to Japan. Two years more elapsed before the departure of Bering, and the *St. Peter* and *St. Paul* leaving Okhotsk September 4th, 1740, had barely time to reach Kamschatka before the onset of winter. Steller and De la Croyère were left at Bolcheresk with the greater part of the stores, while the two ships rounded the southern point of Kamschatka, and went into winter-quarters in Avatcha Bay. It was thought too hazardous to attempt to bring the smaller provision vessels by the same route, and the transport of the goods was therefore undertaken by land—an affair of the greatest labour and difficulty, which, but for the employment of an enormous number of dogs, could scarcely have been accomplished. The present port of Petropaulovsky was selected as being the most suitable in which to winter; huts and storehouses were built and a church erected, and the little settlement thus established was named in honour of the two ships forming the expedition.

On the 4th of June, 1741, the two commanders took their final departure on the voyage which was destined to end in such disaster and suffering as have but few parallels in the annals of naval history. Bering commanded the *St. Peter* and was accompanied by Steller, while De la Croyère sailed in the *St. Paul* under Tschirikov. The course was at first shaped to the south-

Halle, and distinguished himself greatly in his examinations at Berlin. In 1734 he joined the Russian army as surgeon at the siege of Dantzic, and was afterwards appointed to Bering's expedition. To his dauntless courage and unlimited resources the survivors of that ill-starred undertaking in great measure doubtless owed their lives. It was characteristic of the man that during the frightful sufferings they underwent on Bering Island, in the winter of 1741, Steller patiently continued his natural history investigations. "Steller cured the mind as well as the body," Müller tells us, and his early death at Tiumen in Siberia in November, 1746, robbed the world of science at that time of one of its brightest ornaments.

east, in the hope of discovering the land said to have been sighted by Gama, but on reaching the 46th parallel of latitude without result, it was resolved to steer due east for the American coast. It had been arranged that the ships should not part company, but on June 20th heavy weather and fog came on, and they became separated. It was in vain that Bering cruised in search of his companion: he had been driven too far to the north, and though he again returned to the 45th parallel, his efforts were unsuccessful. The great navigator and his old comrade and lieutenant were destined never to meet again.

After their separation both ships continued their easterly course, and on July 18th Bering sighted the American coast in Lat. 58° 28′ N. Three days previously Tschirikov had achieved a similar success one hundred and fifty miles farther south. Both occupied themselves in tracing the coast northwards, as had been agreed on previous to their departure from Avatcha, but Bering was before long much embarrassed by finding that the land led to the south-west for an apparently interminable distance. His search for the fabulous land of Gama was the indirect cause of the disasters that ultimately befell him. He had became embayed in the great gulf between Sitka and Kodiak Island, instead of passing to the northward of the Aleutian chain and striking the American coast far to the west at the entrance of the straits now known by his name; and the constant south-westerly gales, to the full force of which his vessel was exposed, rendered his position one of the greatest peril. The numerous rocks and islands and the dangerous coast under the lee increased their anxieties, and in the month of August scurvy broke out among the crew. Bering himself became early affected with the malady, and the condition of the invalids was aggravated by bad water. Throughout August they beat steadily to the west and south, encountering head winds without intermission, and on the 30th of that month they reached and landed upon the Schumagin Islands, which were named after the first of the crew who perished from the disease that was ere long

to decimate their ranks. Bering himself was now confined to his cabin, and the command was taken by Lieutenant Waxel.

The condition of the vessel and her crew had now become serious. Day by day the scurvy gained ground among the hard-worked and ill-nourished sailors, and the fogs that are so constant a characteristic of these seas added still further to their difficulties. For days together they were unable to take an observation, navigating at random along a coast of which they knew nothing save that it abounded in dangers. The greater part of September had passed, and to the ill-fated crew it must have seemed as though they were destined never to clear the coast that from day to day so pitilessly barred their northward course. On the 24th they sighted the islands to the south of the Alaska peninsula, but the following morning a gale arose which exceeded in violence any that they had hitherto encountered, and lasting for seventeen days, drove them far to the south-east. When the weather had moderated they estimated themselves to be in Lat. 48° 18′ N., but fogs and overcast skies prevented their checking the dead reckoning by observation. A council was held to decide whether they should go into winter-quarters on the shores of the American continent, or attempt to regain Kamschatka, and the latter course was ultimately decided on. It was a fatal resolution, for, bad as their chance would undoubtedly have been on shore, it was a far preferable alternative to the confinement and bad water of the *St. Peter*.

During October they sailed slowly westward along the southern shores of the Aleutian chain, sighting many islands on their way; and at length, on the 29th, they found themselves approaching two others, closely adjacent, which they mistook for the two most northern of the Kuriles. In reality these were Attou and Agattou —the Elijni group of the Aleutians. Had they continued their westerly course they would in all human probability have reached Avatcha Bay in a few days, and the lives of Bering and his gallant crew might have been saved. Acting, however, upon their wrong departure, they steered to the north and east, and it was

not long before they realised the complete uncertainty of their position. The scurvy had terribly increased. Scarce a day passed without claiming its victim, and the hope of reaching a port with the season already so far advanced seemed faint indeed. The sufferings of these unhappy people are best realised in Muller's words:[1] "The wretched crew, emaciated and diseased, worked almost without remission in the cold and wet. To such straits were they come, that the steersman had to be supported to the helm in the arms of two of his comrades who were still strong enough to be able to stand, and when he was neither able to sit nor steer any longer, he was replaced by another who was but little more able to perform the duty than himself. They dared not put the vessel under any press of sail, as in case of need they had not sufficient hands to reduce it. The sails were so worn out that the first strong wind would have blown them to rags, yet they had not strength enough to replace them by the spare ones they had in reserve. To the continual rain that they had hitherto experienced, succeeded hail and snow. The nights became longer and darker, and their danger correspondingly increased, for there was hardly an hour when shipwreck was not to be feared. At the same time the water began to fail them. The excessive labour became insupportable to the few who were still able to stand. Death, which they felt to be inevitable, seemed to them as though it would never come to deliver them from their misery."

Such was the state of affairs when, on November 4th, land was sighted ahead. It was the last discovery that Bering ever made,—the island which has since, most fittingly, been named in his honour. The course of the *St. Peter* was immediately directed towards it, and in spite of the barrenness and desolation of its shores, they resolved to quit the ship and pass the winter as best they might upon the land. After a most narrow escape from shipwreck, which, had it occurred, would have resulted in the loss of every soul on board, they succeeded at last in bringing the

[1] "Samlung Russischer Geschichte," trad. par C. G. F. Dumas.

vessel to anchor off the south-east coast. It was not a moment too soon, for the main rigging had parted on both sides, and the vessel was as hopelessly disabled as her crew. Waxel and Steller landed on the 6th. A stream of water as yet unfrozen was found, but not a trace of even the smallest brushwood was to be seen. It was decided to enlarge the trenches between some sandhills they discovered in the neighbourhood, and to roof them in with canvas. These wretched substitutes for huts were prepared upon the following day, and on November 8th they commenced to land the invalids.

Of the horrors of that awful time the survivors have left us a detailed account. Of those who had been confined to their hammocks below deck not one eventually escaped. Some died immediately on breathing the cold air, others as they lay on deck waiting to be carried into the boats. Men who had left the ship alive expired ere they reached the land, and others before many hours of the long-looked-for life ashore that was to give them back their health had passed. Each day those who were able to undertake the task continued the landing of the dead and dying until all had been brought ashore. Each day their number was diminished by death. The survivors had scarce strength enough to bury their comrades; and to add to the horrors of their situation, bands of foxes, with which the island appeared to swarm, haunted the encampment, and fed upon the corpses before they could be interred. On November 9th Bering was brought on shore. He had been long ill, and his condition was evidently hopeless. Towards the end he became mistrustful of everybody, even of Steller, with whom he had been on terms of the closest friendship. His death, which occurred on December 8th, was touching in its misery. The sides of the ditch in which he lay had gradually crumbled down, and his feet became buried in the sand. He would not permit it to be removed, saying that it kept him warm, and thus, little by little, it accumulated until it had covered the abdomen. He was buried almost before he died.

Shortly before the death of their commander the survivors had

sustained what, at the time, appeared to them the most terrible blow that had yet befallen them; a disaster that seemed to deprive them of their last hope of ever regaining Kamschatka. On the night of the 28th of November, during a heavy gale from the E.S.E. the cable parted, and the *St. Peter* came ashore. Next morning she was found buried in the sand to the depth of eight or nine feet, and with her back broken. If the lives of the rest of the crew were to be saved it could only be by means of a boat constructed from the wreckage, but as yet no thought could be entertained of their future plans, and all their energies were directed to the support of life throughout the long and dreary winter. Thanks to the abundant animal life upon the island, this was an affair of no great difficulty. At first the Sea-otter (*Enhydra lutris*) formed their chief means of sustenance, and of the greatly-prized skins of this animal they preserved no less than 900 during their stay upon the island.[1] Later they were able to kill many of the now totally extinct *Rhytina* or Sea-cow (*R. gigas*), whose flesh was far more palatable; and by this means they succeeded in saving their remaining stock of flour and other provisions until the time came for their final attempt to reach Kamschatka.

At the end of March, the snow having nearly melted, a consultation was held as to the best means of escape. Death had again reduced almost by half the number of those who first went into winter-quarters on the island, and of the whole crew but forty-five survived. The frightful sufferings they had gone through had obliterated all considerations of rank, and Waxel no longer attempted to take command. A proposal was made to deck the open boat which still remained in their possession, and to send her to Kamschatka for help, but this was rejected, and it was resolved to break up the stranded *St. Peter*, and to construct a small craft out of the material. The task was one of no ordinary

[1] According to Dr. Stejneger ("Proc. of U.S. Nation. Mus." 1883), this species is now practically extinct upon the island. It is, however, still found upon the Kurile Islands, and on the shores of the southern part of Kamschatka.

difficulty with the means they had at command, but it was rendered still harder by the loss of all their carpenters. Fortunately a Cossack of the party had some knowledge of shipbuilding, and under his directions they commenced their vessel on the 6th of May. Three months later she was launched, and on the 27th of August, 1742, after a voyage of eleven days, the survivors of the ill-fated expedition safely arrived at Petropaulovsky.

The voyage of the *St. Paul*, under Tschirikov, was hardly less calamitous than that of the *St. Peter* as far as regards the sickness and disease that attacked her crew. The unfortunate loss of their two boats prevented them from landing on the coast, and they were reduced to indifferently distilled salt water, and such rain as could be collected in the ship's sails. The same contrary winds retarded their progress, and scurvy soon appeared among the crew. One by one it carried off its victims, and had it not been for the better—or at least the more successful—navigation of the *St. Paul*, the mortality on board Tschirikov's vessel would no doubt have been as great as that among Bering's men. Fortunately they were able to regain Kamschatka before the winter. They entered Avatcha Bay on the 9th of October, and on the following day De la Croyère, who had long been ill, resolved to land. He was destined never to do so alive. The keen air and unwonted exertion had the same effect as in the landing of the *St. Peter's* crew, and he fell dead on reaching the deck. Of the crew of seventy persons twenty-two had perished. The annals of exploration furnish few stories more tragic than that of Bering's Last Voyage.[1]

[1] For further information on Kamschatka the reader may consult Kittlitz's "Reise durch Kamschatka"; J. D. Cochrane's "Narrative of a Pedestrian Journey"; P. Dobell's "Travels in Kamschatka"; Coxe's "Russian Discoveries"; Steller's "Beschreibung von dem Lande Kamtschatka"; Langsdorff's "Travels"; Lesseps' "Travels in Kamschatka"; "Voyage of De la Perouse"; Krusenstern's "Japan"; "Captain Cook's Third Voyage"; Krascheninikov's "Kamschatka"; G. F. Müller's "Sammlung Russischer Geschichte"; Belcher's "Voyage of the *Samarang*"; Erman in "Journ. Roy. Geog. Soc." vol. ix.; Tromson's "Voyage of the *Encounter*"; Whymper's "Travels in Alaska"; and Rush's "Reindeer and Snowshoes."

APPENDIX I.

NOTES ON LIU-KIU.

The Liu-kius are the central links of the chain of islands which connect the Satsuma province—the most southern district of Japan—with Formosa. To the north are the Linschoten Islands, practically unknown to Europeans; to the south the Meinco-simas, inhabited by the same race as the Liu-kius, and for as long a period as history relates, subject to their kings. They have been visited and described by Belcher in the "Voyage of the *Samarang*" and also by the U.S.S. *Saratoga* in 1853, who found their inhabitants the same timid and inoffensive people as the Liu-kiuans. Whatever derivation be adopted for the word Liu-kiu, there is little doubt that the name originated in the peculiar appearance this chain of islands presents when figured in a chart. Li Ting-yuen tells us[1] that in the Sui dynasty (A.D. 580) the islands were first mentioned by Chu Kwan, who called them *Liu-kiu* or the "floating dragon." The second character was soon changed, and the name became "that which is sought floating." Later it appears as *Liu-kiei* or the "floating demons," and finally in the Ming dynasty slight alteration of both characters resulted in the name at present used—"the pendent ball"—a possible allusion to their acknowledgment of China as a supreme power.

The position of the Liu-kiu group—their latitude, 26° N., is very nearly that of the Canary Islands—is such as to render the climate almost tropical. Frosts are unknown, and since the islands cannot boast of a higher altitude than a couple of thousand feet, snow rarely or never falls. During Mr. Braunton's visit in the month of December the thermometer registered 73° Fahr. in the shade, and the advantages of solar topees and light clothing were unquestionable. In summer the heat in Napha appeared excessive, as far as the shortness of our visit enabled us to judge, but inland, among the pine-groves and gardens in and around Shiuri, the temperature was delightful. The result of this equableness of climate is that crops can be grown at any

[1] "Shi Liu-kiu Ki: Journal of an Envoy to Liu-kiu," translated by S. Wells Williams, LL.D. "Journal of N. China Branch Roy. Asiat. Soc.," new series, No. VI.

season, and two harvests of rice produced within the year. But in spite of the steady and somewhat high temperature, there is but little of the tropical element in the appearance of the islands themselves. The dull monotonous green of the mangroves is wanting on their shores. The exuberant vegetation of the true tropic island has given place to pine-crowned hills and a park-like country which in many places is almost English in character. Both Beechey and Perry, it is true, have described the coco-palm as existing in the neighbourhood of Napha, but none were seen during our visit. Even if it has not died out, however, its presence is quite abnormal, for the position of the islands is beyond the latitude in which it is possible for its fruit to ripen. It is not even cultivated in Formosa—nearly one-half of which island, as we have seen, lies actually within the Tropic. The characteristics of the vegetation are for the most part those of temperate regions, and though the pandanus and that gigantic laurel,—the camphor-tree of Formosa,—both of which have their true homes in the moister and warmer regions farther south, are found in the Lin-kins, the abundance of northern fruits, vegetables, and cereals, together with the lovely nymphæa, the hedges of dwarf bamboo, the camellias, mallows, and peach-trees, remind the traveller strongly of Japan. Possibly when the word health-resort has been admitted into the vocabulary of Tokio physicians, and the advantages of the choice of twelve hundred miles of latitude realised, we shall find Lin-kin transformed into the Madeira of the East, and the *daimios* and their families, tall hats and black frock-coats included, flocking to Napha with the same regularity with which the fashionable *poitrinaire* of New York seeks health and high life in Jacksonville. There is but little doubt that, as a winter residence for those with delicate lungs, the islands would be infinitely superior to many Mediterranean and other towns where the patients from our own land of damp and fog in many cases vainly await amelioration of their symptoms. Malarial fevers are apparently rare or even unknown, and the population appears remarkably healthy. With the exception of a single case of elephantiasis, no invalids were seen during the *Marchesa's* visit, and though several individuals were noticed who had suffered from smallpox,—a very common disease in Japan—deformed people and cripples were conspicuous by their absence.

Good as the climate of the Lin-kin group undoubtedly is, there is a thorn attaching which is common to all the pleasant islands in these latitudes. They too, like Formosa, have a typhoon season, and though the strength of these sudden but terrific gales appears to be less here than in the Bonin Islands, or on the China coast, they are sufficiently severe to cause considerable damage to the crops, and to expose the shipping to no little risk. Napha-kiang, on these occasions, is by no means a safe harbour, but Ounting, or Port Melville, as it was named by Captain Maxwell during the voyage of the

Akeste and *Lyro*, affords perfect shelter in all winds. This harbour is described as being as beautiful as it is secure, but excepting during the months of August, September, and October, there is, from a precautionary point of view, but little necessity for visiting it. For the rest of the year the islands, lying as they do within the limits of the north-east and south-west monsoons, are troubled with but little bad weather. From October until March northerly winds prevail, but by May the south-west monsoon has set in, and blows steadily. A period of settled fine weather then follows; from July to September the winds are somewhat variable, and finally, at the beginning of the latter month, the north-east monsoon commences, and for two or three months is attended by unsettled weather and rain.

The zoology of the islands has, unfortunately, been very little investigated. Commodore Perry's visits, though extending over a period of some months, were productive of almost no results in this branch of science, and the short stay of the *Marchesa* in Okinawa-sima, and the dense crowds of people that surrounded us wherever we went, combined to prevent investigation in our own case. During the short expedition made by the Americans towards the north of the island, the existence of the wild boar was verified, but no deer or monkeys were seen, although both have been said to be found upon the islands. In Hakluyt a passing mention of the Liu-kius is made, in which deer are alluded to. "The Chinar sayd likewise that they (the Liukinans) did often come with small shippes and barkes laden with bucks and hartes' hides, and with Golde in graines and very small pieces to traffique with them of the coast of China, which hee assured me to bee most true." On the other hand the Jesuit missionary, Père Gaubil, in his account of the islands[1] says that Okinawa-sima "est assez heureuse pour n'avoir ni loups, ni tigres, ni ours; elle n'a non plus ni lièvres, ni *daims*." Nothing, however, is said of monkeys, though Mr. Satow in his "Notes on Loochoo"[2] writes, "Among wild animals the deer, ape, and wild boar are mentioned." It is quite possible, if not most probable, that both the former exist. The islands, so far as can be judged from the scanty data afforded us at present, are connected both with China and Japan, and probably Formosa, by a submarine bank with soundings of not much over one hundred fathoms. A *Macacus* is found in both of the latter countries,[3] which are also inhabited by a species of Axis deer and a Goat-antelope (*Nemorhedus*), and though in each case the

[1] "Lettres Edifiantes et Curieuses," tom. xxiii. p. 232. This paper, which appears to be on the whole wonderfully correct, is a translation by the learned Father, then missionary at Pekin, of an account of the islands written in 1721 by Sapao-kwan, who was sent in 1719 by Kang-hi, Emperor of China, as ambassador to the King of Liu-kiu.

[2] "Trans. Asiat. Soc. of Japan," vol. i. p. 3.

[3] *M. speciosus* of Japan is remarkable for having the most northern range of any monkey.

Japanese and Formosan species are distinct, it is very likely that these genera may also be represented in the intervening islands. It is, at all events, an interesting point for the next naturalist who visits the country to elucidate.

The abundance of limestone throughout Liu-kiu is noticed in Commodore Perry's account of the visit of the American squadron. As I have already stated, this rock is largely used for building purposes, and for paving roads, owing to its lasting power and the comparative ease with which it is worked. Masses of coralline limestone are found far inland, and at a very considerable elevation,—even at as great a height as Shiuri; and it is thus evident that upheaval must have taken place to a very considerable extent. Northward from Napha-kiang the American expedition found a talcose slate at Barrow's Bay, succeeding to the argillaceous surface-rock noticeable in the vicinity of Napha; and in the northern part of the island granite was met with, very soft in character, and almost white, rising into a hill of some elevation.[1] The steep promontories along the coast, it was remarked, were generally composed of gneiss of a very coarse nature, which supplants the limestone rock of Capstan Head, and the other cliffs round Napha-kiang.

By far the most important result of the Americans' visit to the north of the island was the discovery of coal, or rather of tolerably certain indications of it, at Slash Bay on the north-west coast. Here, in a bluff close to the water, was an outcrop of black bituminous slate in strata alternating with seams of iron-stone. This was also visible at several places in the neighbourhood, and although no borings could be undertaken, its presence is strong presumptive evidence in favour of the existence of coal.[2] The locality, however, has never been visited since, so that no opportunity has occurred of verifying the discovery.

Gold and copper have been stated by various authors to exist in the Liu-kiu Islands. According to Purchas, "they abound in Golde more then others of that Sea;" and Gualle, as we have just seen, talks of the "Golde in graines and very small pieces" brought thence to China, at the same time alluding to the existence of gold-mines. The metal, however, was most likely obtained from the Japanese, with whom trade has been carried on for centuries. Whether the copper in use on the islands owns a like origin is another question. In the list of presents sent by the Liu-kiu King Chang-chih to the Tartar Emperor, occurs the item of 3000 pounds of copper, in addition to the sulphur previously mentioned; and Gaubil states that the King's revenues were drawn from the salt, the sulphur, and the copper. It would thus appear that there are actually copper-mines on the island, though they

[1] Commodore Perry's "Narrative of the Expedition of an American Squadron to the China Seas," p. 184.

[2] Perry, *op. cit.* vol. ii. p. 54.

exact situation is apparently unknown. Neither Perry nor Beechey make any allusion to the subject, and while at Napha we forgot to obtain particulars from the Japanese Vice-Governor, as we had intended. On the whole, the existence of this metal on the islands would seem probable, although in a petition presented to Captain Craycroft of H.M.S. *Reynard*, who visited Napha in 1850, the fact is denied.[1] Caution, however, has ever been a leading characteristic of the Liu-kiuans, and the statement is as likely to be incorrect as others which have been furnished with equal readiness by the authorities in such documents.

The population of Okinawa-sima, if not of all the islands, is very dense. Mr. Brunton states it to be 150,000,[2] which, supposing the island to have an area of between four and five hundred square miles, would give an average of three hundred to the square mile; a thickness of population which, as he states, is so great as to be hardly conceivable. The latest Japanese census (1874) gives the entire population as 167,073. During our stay at Napha we were informed that the inhabitants of that town numbered nearly 35,000 (of whom 2000 were prostitutes), and those of Shiuri 20,000. Of these the greater part are of the poorer class, but it seems that, previous to the Japanese annexation, if not now, large numbers of those of a higher rank, almost corresponding to the now extinct *samurai* of Japan, lived in a condition of absolute idleness, supported indirectly by the Government. Besides the practical condition of slavery of the field labourer resulting from this arrangement, there was, at the time of Bishop Smith's visit in 1850, an actual class of public slaves—the *Oo-bang*—who possessed no civil rights of any kind, and were under the absolute control of their masters. Japanese rule, as far as we could discover, has modified a good many of these conditions, and will probably in time completely change them; but at the date I have just mentioned an individual of the *Oo-bang* class was a marketable commodity, at prices ranging from two to ten dollars.

We obtained no information as to the condition of the agricultural class during our visit, but if Commodore Perry's account be correct, their lot is anything but an enviable one. The land belongs to the Government, who sub-let it to the literati—the higher classes to which I have already alluded. The peasants employed in its cultivation get but one-fifth of the produce; one-half to three-fifths goes to the landlord, while the remainder is expended in paying for the cost of collection and other items. Should the labourer work for daily wages, the rate varies from three to eight cents per diem,—a remuneration so scanty as entirely to obviate the possibility of rest from year's end to year's end.[3] The peasant is thus bound to a life of poverty,

[1] "Lew-chew and the Lew-chewans," George Smith, D.D., p. 93.
[2] "Trans. Asiat. Soc. of Japan," vol. iv. p. 77.
[3] Perry, *op. cit.*, vol. i. p. 226.

and owing to the caste system which prevails, his children are born to an inheritance of little else but toil, for there is but slight chance of ever rising to a higher class. From his point of view then the system probably appears a wrong one, as indeed it undoubtedly is, but, agriculturally considered, it may be questioned whether better results could be produced under other conditions. Under the *métayer* system obtaining in Madeira—an island closely resembling Liu-kiu in its dense population, its need for terracing and irrigation, and its similar crops—it is to be doubted whether the Madeirense is any the less absolutely the slave of the landlord than is the Liu-kiuan peasant. Yet it is equally a matter of question whether the conversion of the *cacize* into an owner would in any way improve his condition. In few countries in the world is such high cultivation seen as in these two islands. The most elaborate system of irrigation and the most careful terracing are practised, and it is probable that the best results that the land is capable of affording are obtained. Much of Liu-kiu apparently still remains uncultivated, and there is no doubt that the island is well able to support an even larger population than it does at the present time.

One of the chief beauties that strikes a stranger's eye upon his first arrival in the country is the varying shade of green or yellow in the waving fields of cereals that carpet the valleys or clothe the hills of the island. It is at once evident that there is no strict division of the seasons into seed-time and harvest, as in our own and other less favoured lands. Here the ear is ripe and ready for harvesting, while the next patch, perhaps, has barely commenced to sprout. The three most important crops are undoubtedly rice, wheat, and sweet-potatoes. The former is planted for the most part on the lower ground, or where the supply of water is sufficient for its growth, and its mode of cultivation appears to be similar to that practised in China. We noticed but little wheat upon the western side, but on the northern part of the island, near Deep Bay, vast fields of it were seen by the American Expedition, apparently extending uninterruptedly for miles. Owing to the smallness in size, both of the head and of the grain itself, the yield is said to be poor, and not to average more than about eight bushels to the acre. Barley we did not see, but it is mentioned by Perry as having been met with upon the island. By far the most important crop, however, as far as regards the support of the vast majority of the inhabitants, is the sweet-potato, which appears to be grown in every part of the island hitherto visited, and in almost every soil. Its usual mode of cultivation is not in ridge and furrow, as is most commonly seen elsewhere, but in a succession of large beds, slightly raised, or, in other words, separated by shallow ditches. Peas or beans are very commonly seen planted together with it; the latter especially being a

most abundant crop. The sugar-cane is small, hardly more than four feet in height, and with short internodes.

Tobacco appeared to be largely grown. Its use is certainly almost as general among the Liu-kiuans as it is with the Japanese, and large quantities of it may be seen in the market at Napha-kiang. It is apparently of the same nature as the leaf cultivated in Japan,—mild and somewhat aromatic, but very little care seems to be spent on its preparation. It is chiefly sun-dried, but owing to its being often exposed to rain, its flavour is frequently completely spoiled, and a great deal of the leaf we saw in Napha market was what, in America, would be termed "funked."

Yam, millet, and cotton are all to be found in Great Liu-kiu, according to Perry. The latter, however, cannot be very abundant. We did not see it, neither does it appear that the members of the American Expedition found it actually growing, though it was noticed on the simple looms and spinning-wheels of the natives. The banana is largely used for the manufacture of coarse textile fabrics. It seems to be a species closely allied to *Musa textilis*, though slightly lighter in the leaf. The true bananas is, apparently, most rarely grown; its fruit at least is not often seen, and what we were able to obtain was of very coarse quality. Many kinds both of fruit and vegetables exist on the island, but during our visit it was only with considerable difficulty that anything of this description could be procured. Among the former are oranges, figs, peaches, and water-melons. A very large turnip is grown, apparently identical with the Japanese *daikon*, and carrots, parsnips, pumpkins, onions, and brinjals are also cultivated. All these are, however, only secondary to the enormous quantities of beans and sweet-potatoes which form so large a part of the ordinary diet of the natives. The so-called "sago-palm" (*Yasu*), which is not to be confounded with the true sago-palm of the Malay Archipelago and New Guinea, is very abundant. A large quantity of it grows within the outer gates of the castle at Shiuri, and it is also planted on steep and rocky hill-sides in various parts of the country—a situation which would be impossible for almost any other plant or tree affording food, but which, nevertheless, appears to be well suited for it. The trees grow but slowly, and it must be several years before they are sufficiently large to be worth anything.

On the whole, the Liu-kiuans are more than well off in the way of crops and vegetable products generally, and though the soil is for the most part not particularly good, the immense amount of care and labour expended on the land to a great extent counterbalances this disadvantage. The climate is an excellent one, as I have already stated, but the farmer, here as elsewhere, has his foes. The principal of these are droughts and typhoons. The elaborate system of irrigation enables him to combat the former with more or less

success, but the latter constitute a *force majeure* against which he can do nothing. Happily they are not very frequent, for, when they do occur, the amount of damage occasioned by them is often very considerable.

Having got in and threshed his corn, the Liu-kiuan proceeds to store it in granaries of a peculiar shape, reminding one rather of the style of buildings constructed by Lapps or Siberians than of what is usually seen in these more southern latitudes. They are wooden structures, generally square, with the walls leaning out considerably at the top, and are raised on posts to a height of six feet or more above the ground. The roofs are covered with thick thatch, and the posts are guarded by pieces of wood nailed round them on the reversed cup principle, by which means the depredations of rats and mice are avoided. These are said to be great numbers of the former upon the island, but they have no doubt been introduced from China, as have their domesticated animals—pigs, goats, black oxen, fowls, ducks, and geese. The leading characteristic of almost all the above-named quadrupeds, as well as of the horses, is their small size. We know that this diminution in size is an almost necessary result of the introduction of the domestic animals into islands from the mainland, but it appears to be especially well marked in Liu-kiu.

While the *Marchesa* lay at Napha-kiang some half a dozen junks were at anchor in the inner harbour or alongside the jetty, and the scene during the discharge or stowage of their cargo was a busy one. These vessels are built after the Japanese model, and have the high poop and depressed bows which are so unsightly to English eyes. Most of them, no doubt, do not trade beyond the limits of the archipelago, but the commerce with Japan has most probably increased as much since the annexation as that with China has diminished. In past days not much in the way of trade appears to have been carried on with either of the two countries. Tribute was paid to both, either annually or biennially, but as a rule there appears to have been little communication with other nations. The Liu-kiuans have been throughout their history a retiring and somewhat anti-progressionist people, and it was not until later that the advantages of commerce began to be realised. Père Gaubil, in the memoir to which I have alluded, speaks of the traffic with China and other countries, which at that time appears to have been fully established. "There are a good many vessels, not only engaged in plying between island and island, but also to China, and sometimes to Tonquin, Cochin China, and even to other still more distant places,—to Corea and Satsuma." Kaempfer[1] tells us that the Liu-kiuans were allowed to visit the Satsuma province, but were not permitted to go elsewhere. Their annual trade was, nominally, limited to 125,000 taels,[2] but it actually exceeded this amount

[1] "History of Japan," p. 354.

[2] The value of the tael varies with the dollar, but it may be taken roughly at 6s. 8d.

considerably. They brought Chinese silks and other articles of Chinese manufacture, as well as rice, corn, tortoise-shell, mother-of-pearl, and other produce of their own country, and, possibly, the beautiful red lacquer I have already mentioned, the manufacture of which is apparently a lost art. From China they obtained pottery, glass, silver and iron, nails, tea, and various other articles, most of which are imports of the present day. The silks worn by the upper classes are also of foreign make, but they have a Japanese rather than a Chinese appearance, and most probably come from the former country. Their own manufactures are few and poor. Both textile fabrics and pottery are coarse, and their lacquer very inferior. Smaller articles are of rather better construction, such as pipes, hair-pins, fans, and such like, and the basket-work is in many cases extremely good. But a great change is on the eve of passing over the country. The Japanese are daily increasing in numbers, and will bring their industries with them. The *Mitsu Bishi* line of steamers from Yokohama now visit the islands every two months, and before many years have gone by the country will, in all probability, have little to distinguish it from an ordinary province of Japan.

Up to quite recent times the Liu-kiuans are said to have had no money, and an equal doubt at one time existed as to their possessing arms. Captain Hall saw none,[1] and was inclined to the belief that there were none. That they were armed in some way in days gone by is evident from the history of the country. From the beginning to the end of the fourteenth century civil wars appear to have prevailed in Okinawa-sima. The governors of the north and south provinces revolted under the misrule of Yut-ching, and the island was divided into three kingdoms, which were continuously at war with one another until their reunion in 1430. In the war with Japan in the sixteenth century Liu-kiu lent its aid to China against the great Japanese commander Fashiba, and there are other instances in which the islanders appear to have been actuated by a more bellicose spirit than that they have exhibited during the present century. Their castles are in themselves sufficient to show that, at one time at least, the arts of war were not unknown. But it seems equally probable that in later years they became completely forgotten, and that swords and spears alike were, figuratively at least, and even perhaps literally, converted into ploughshares and reaping-hooks. The use of gunpowder was probably never familiar to them. We saw no cannon in the fortress of Shiuri, and there was no provision for mounting them, but the greater part of the building is, of course, of a period antecedent to their introduction. Had arms been in general use in recent times, some examples ought easily to have been obtainable. Such articles, for instance, have become a perfect drug in the market in Japan, but in Liu-kiu we were unable to meet with a single specimen.

[1] "Account of a Voyage of Discovery . . . to Great Lew-chew," p. 151.

As in China and Japan, there is no established religion in the islands. Buddhism appears to have been introduced 916 A.D., but its tenets are more in favour with the lower than with the upper classes of society. There are said to be two sects,—the *Shingon-shiu* and the *Rinzai-shiu*,—both of which also exist in Japan, and their closely-shorn priests are often to be seen among the people, by whom they do not appear to be held in much respect.[1] Confucianism is apparently the religion of the upper classes, and is also mingled largely with the beliefs of the lower. It was introduced by the Chinese who came over to Liu-kiu in the reign of Hong-ou, founder of the Ming dynasty, towards the end of the fourteenth century, and was in great favour during the time of Supao-kwang, who did not fail, at the ceremony of the investiture of the Liu-kiu king with the full sovereignty, to perform the necessary religious rites connected with that faith. The Tartar Emperor Kang-hi (the monarch of whom Supao-kwang was the representative) had also introduced the worship of a Chinese deity,—Tien-tsei,—and Gaubil informs us that at Shiuri there was a splendid temple erected in her honour, which the ambassador duly visited to offer his prayers. In Dr. Williams' translation of the "Shi Liu-kiu Ki" already referred to, Li Ting-yuen notes, during his residence on the island in 1801, that "the priests worship Heaven under the name of the Full, Great, Self-existent heavenly God. They bar the doors, and the worshippers all kneel outside. When the common people worship this God, they offer slips of incense but do not burn it. Those who wish to be very devout scatter several pinches of rice before it and go away. In this temple there is a Buddhist hall dedicated to the God Puh-tung (*i.e.* the Uncovered, the Unconcerned), and another god having three heads and six arms, black as ink, whom the attendants told me was 'Heaven's grandson who founded the kingdom.'"

Beechey says that the Liu-kiuans "are extremely superstitious," a phrase we are somewhat too apt, with the magnificent contempt of Britishers for those who happen to think differently from us on any point, to apply to those who have a strong faith in what we do not ourselves believe. If by superstition we understand empiricism in religion, which, I take it, is its real meaning, then the invocation of the deities upon every occasion, and the offerings of written prayers instanced by that author, can hardly be regarded as such. The existence of a species of wayside shrine—stones before which they burn incense and offer fruits, and make vows or repeat prayers—is mentioned by Gaubil; and at the present day the same custom is in vogue, and shrines, before which "joss-sticks" are burnt, are common enough. That a belief in fairies or genii also exists is evident from a story given us by Li Ting-yuen. It relates how, once upon a time, a poor peasant named Mingliter, of unblemished character, but without any family, had a well of delicious

[1] Satow, "Trans. Asiat. Soc. of Japan," vol. i. p. 7.

water near his house. On going to draw water one day he perceives a bright light at the well, and discovers a woman washing, who has hung her clothes on a neighbouring pine-tree. These he carries off, and in spite of her entreaties, refuses to return. Being thus unable to resume her former condition, she consents to remain and become Mingliter's wife, telling him that the gods have seen his irreproachable character, and wish to magnify his family. She bears him two children,—*Chinkok* or True Heron, and *Kwee-nise* or Tortoise Year,—and when the eldest has reached the age of nine, she feels that her fate is fulfilled, and that she must go. She accordingly dresses herself in the original garments, mounts a tree, and disappears. The king hears of the story, and confers favours on the children, at the same time making a present of land to the bereaved widower, to console him for his loss. This story, as Dr. Williams remarks, is almost identical with one related in the "Arabian Nights," and legends of a similar nature exist in many countries. Castren[1] relates a story prevalent among the Samoyedes, in which a hunter of that nation steals the feather dress of one of seven swan-maidens who are bathing in a lake. The myth was a favourite one with Scandinavian peoples, but Mr. Baring-Gould[2] shows that it was also Teutonic. That it should exist in so remote a corner of the world as the Liu-kiu Islands is a fact as curious as it is interesting.

When at Napha-kiang I was unaware of the existence of two colossal stone figures which have been described and figured by Mr. Halloran[3] in his diary of a visit to the Liu-kius. They are twenty feet or more in height, and from their being described as placed on either side of a gate leading to a temple, it is probable that they correspond to the *Ni-o*,—the fantastic and hideous images which guard the temples sacred to the religion of Buddha in Japan. Their appearance, however, as represented in the illustration above referred to, does not much resemble that of these figures. Mr. Halloran speaks of them as "very ancient idols, formed of a stone resembling quartz, and of so great an age that all tradition of their original construction is lost, and their features obliterated." The temple in the neighbourhood of which they stood was, for a period of nearly eight years—from 1846 to 1854—the residence of a certain Dr. Bettelheim, whose labours as a missionary during that time were, contrary to what might have been expected from the character of the natives, an almost absolute failure.

In the year 1845 some English naval officers formed themselves into a society under the name of the "Low-chew Naval Mission," the most prominent member of which was Lieutenant Clifford, who had visited the islands with

[1] "Ethnologische Vorlesungen über die Altaischen Völker," p. 172.
[2] "Curious Myths of the Middle Ages," p. 573.
[3] "Eight Months' Journal during visits to Loochoo, Japan, and Pootoo," p. 12.

Captain Basil Hall, of whose well-known book he was, in fact, joint author. In the following year they sent out Dr. Bettelheim, a German or Hungarian by birth, and a converted Jew. He had married an Englishwoman, and was himself a naturalised British subject. Though a most zealous and indefatigable worker, he was not in holy orders, but his knowledge of medicine was doubtless of great use in enabling him to obtain an influence over the natives. His efforts at first seemed likely to be successful; free communication with the people was permitted, and no obstacles were put in the way of his teaching them. In a short time, however, probably owing to the action of the Japanese, who were no doubt virtually masters of the country even at that time, their attitude towards him became entirely changed. Difficulties arose as to his teaching, and he was requested to leave the island. This he declined to do, and thenceforward, though he was subjected to no persecution or actual ill-treatment, every effort was made by the authorities to get rid of him. The lower classes were apparently not permitted to hold communication with him, and a system of constant espionage over his movements was instituted. Petitions were sent to Hongkong, begging that the English Government might see fit to remove him,[1] but it was in vain, and the missionary still remained at his post, in spite of the result of his labours being, to say the least of it, unsatisfactory. The conduct of the Liu-kiu authorities must not be too hastily condemned, for if the matter be regarded without bias from their own standpoint, it must be admitted that the very residence of Dr. Bettelheim upon the island was, if not contrary to their laws, at least in defiance of their wishes. At that time the exclusive policy followed by the Japanese was in force in

[1] One of these documents, presented to the commander of H.M.S. *Reynard*, when Bishop Smith visited the island in 1850, is perhaps worth giving, from its amusing style of *ex facie propriis* pleading, which appears to have been characteristic of the attitude usually assumed towards foreigners: —

"The dutiful petition of Ma Leang-tsae (and others), the Vice-Governor-General of Lew-chew, entreating his Excellency to look down in compassion, and take away Bettelheim and his family to his home, that our little country may be at rest. We lie hid in a corner of the sea; the soil is barren; and the people are destitute. During the period of Bettelheim's residence here, both officers and people have been employed in procuring his supplies, to the neglect of their avocations and the prejudice of public business. The upper classes are liable to expenses on account of sacrificial offerings and public granaries, and the common people are at the expense of providing for themselves their daily support, which things greatly impoverish us. If Bettelheim do not soon return to his home, our distress must increase still further, and the country will not be able to stand erect. On a previous occasion, in the eleventh month of last year, when the English sent an envoy hither, we transmitted a special dispatch, requesting that Bettelheim might be removed. As yet no answer has come. But as your honourable ship has just arrived while we are in expectation of the reply, we beg your Excellency to receive Bettelheim and his family on board your honourable ship, and take them to their home. Thus not only will your humble servant ever be thankful, but also the whole country, both officers and people, will be everlastingly obliged by your high favour.

"An urgent petition.

"In Taou-kwang's reign, the thirtieth year, the first day of the ninth month."

the Liu-kius, and with more reason, since they were a nation destitute of arms, and incapable of defending themselves; and there was no doubt that the presence of Dr. Bettelheim was regarded by them from a purely political point of view. Just previous to his arrival two Roman Catholic missionaries had also settled upon the island, but perceiving that under the existent conditions there was no chance of success, they shortly afterwards left. At the time of the visit of the American squadron Dr. Bettelheim was found to be living in a state of undisguised hostility with the natives of the island, and as it was evident that no more good could possibly be done by his continued residence, he left in one of the American ships in February 1854, and the "Loo-choo Naval Mission" dropped into oblivion.

Few descriptions could be more widely different than those of Captain Basil Hall and Commodore Perry of the character of the Liu-kiuans. To the English they appeared contented and happy, and the most cordial feelings of respect and esteem existed between the islanders and their visitors. "God pity these poor creatures," says Commodore Perry; "I have seen much of the world, but never, unless I may except the miserable peons in Mexico, have I looked upon such an amount of apparent wretchedness." They are allowed to be well disposed, but are characterised as ignorant, cunning, and insincere. "The description of Captain Basil Hall," continues the Commodore, "is a mere romance; the production of the inventive brain of a writer not very scrupulous of historical truth, and the account of Dr. M'Leod of the *Alceste* is not much nearer to accuracy." Yet a perusal of the Commodore's large quarto will, I think, leave in the mind of an unbiassed reader a yet stronger impression of the unvarying good-nature, kindness, and forbearance of the people than he would gain even from Captain Hall's narrative. The Americans adopted what may euphemistically be described as a very forward policy. The country was closed to foreigners, and it was begged that the officers would not extend their walks beyond Napha. The Americans therefore arranged a little armed expedition to the north of the island. The Liu-kiuans paid a visit to the ships, and on their departure were informed that it would be returned at Shiuri, the capital of the island. Thither, accordingly, the Commodore proceeded, with two field-pieces, and a company or two of marines. These and other actions of the Americans were, it need hardly be said, eminently successful. "We are but a little nation," the Liu-kiuans pathetically remark in one of their petitions; and it is amusing to read of the feeling of dismay aroused in the breasts of "the people who observe propriety" when brought for the first time in contact with the progressiveness of Western policy. But it is a little hard for them to be abused into the bargain, and it is to be questioned whether the quiet methods of ingratiation adopted by Basil Hall and Maxwell were not infinitely to be

preferral to the field-pieces and go-ahead action of Commodore Perry. With regard to the "wretchedness" of which the latter speaks, I can only say that, whatever may exist beneath the surface, none at least appeared to view during our own visit. A more happy and laughter-loving people I have rarely come across, and if the facial expression of the multitude is any guide to its state of feeling, then the Liu-kiuans are probably, to use the expression of a recent writer on the country, one of the few happy peoples still prospering on the face of the earth. The question of absence of enforced labour as a necessary factor in human happiness is best solved by those who are acquainted with the present condition of the Southern States of America. That it cannot always be answered in the affirmative, especially in the case of races which are of an admittedly low type, is certain. Whether the Loochoo are ready for immediate emancipation is a different affair, but the Japanese are not hard taskmasters, and as one of the most Radical nations in the world, are likely to render them such justice as they do not appear to have experienced at the hands of their own literati.

There have been many conjectures as to the origin of the present inhabitants of the Islands. To the possibility of a former race having existed I have already alluded. The curious rock tombs discovered by the Americans towards the north of the island were called by their guides "the houses of the devil's race," and were apparently regarded as the work of some people of whom they had no knowledge. The dug-out canoes still to be seen in the islands are, without doubt, of Malayan origin,—a further corroboration of which is evident from their being provided with wooden anchors weighted with a large stone, which is a method identically similar to that employed in most of the islands of the Malay Archipelago. The language at present spoken is not sufficiently well known to prove the existence or absence of any words of the Bisayan or other Philippine tongues. Broadly speaking, it appears to be a dialect of the Japanese spoken in the Satsuma province,—a district with which intercourse is known to have been existent for centuries. Such at least is Mr. Satow's opinion[1] after consulting a Liu-kiuan vocabulary; and he also mentions the fact that some of the embassy to Japan, with whom he had an opportunity of conversing while in Yedo, spoke Japanese with perfect correctness. In Lieutenant Clifford's vocabulary given in Captain Basil Hall's book, all the numerals, and many of the words, are certainly Japanese. According to Li-Ting-yuen, private letters, accounts, and proclamations were, in those days, written in the language of the country,—in Japanese characters; while the books on medicine, history, and science were in the Chinese syllabary. We ourselves saw both characters employed, and in a Liu-kiuan-Japanese phrase-book given to me during our visit the one column was in

[1] "Trans. Asiat. Soc. of Japan," vol. 2, p. 6.

the square character, while the Liu-kiuan was written in Japanese *katakana*. According to Dr. Smith,[1] the spoken language is very rich, and owes much to the great number of Chinese terms which have been introduced. These occur especially in the conversation of the literati, as well as in technical descriptions; and it is evident that the immigration of the thirty-six Chinese families which we read of as having occurred towards the end of the fourteenth century, exerted no little influence upon the language, as well as upon the customs and religious beliefs of the islanders.

I have already spoken of the resemblance, both of their houses and dress, to those of the Japanese. These, indeed, are practically identical, but, in some instances, the architecture has been modified by Chinese influence. The gate at the entrance of Shiuri (page 54) is a good example of this, and the peculiar tombs that form so marked a feature in the landscape bear a great resemblance in general form to those of China. Some of the games are purely Japanese, such, for instance, as *go-bon*;[2] and the game of chess played on the island is, according to Li, different to that known in China:—"The people are very fond of the game, and never allow a move to be recalled; they have also a chess champion. They reckon that the player who shows the most empty squares has won, unlike the Chinese who say he has beaten who has the most men left." Unfortunately, Li does not treat us to further details, and I did not see the game while on the island. The tea ceremonies are said to be the same as those in Japan, and the *samisen* I have described only differ in having the body of the instrument covered with snake skin.

On the whole, therefore, it seems not unjust that this most interesting little people should fall under the dominion of the Mikado rather than into the hands of the Chinese, with whom they have so much less racial affinity. Not even the most casual observer would fail to notice their physical likeness to the Japanese, but no one, I feel sure, would ever mistake a Liu-kiuan for a Celestial.

Few countries are furnished with traditions of origin of such wonderful accuracy as those of Liu-kiu. In the year 16,615 B.C. we are informed, the two ancestors of the race came into being, and were named Omo-mei-kiu. Three sons and two daughters were the result of their union. The eldest son, Tient-sun or the Grandson of Heaven, became the first king of the islands; from the second son were descended the tributary princes, and from the third the rest of the people. The eldest daughter, Kun-kun, was called the Spirit of Heaven, and the other, Tsiu-tsho, had the title of the Spirit of the Sea.

[1] "Loo-choo and the Loo-chooans," p. 80.

[2] For the benefit of such of my readers as have not visited Japan I may state that this game is the one lately introduced into England under the misspelt name of Go Bang. Its meaning is "Number five," and it is so called from the game consisting in trying to get five men in a row.

Here, however, the tradition stops, luckily for the youth of the country, to whom the Mrs. Markham of Liu-kiu and the names and dates of the kings of a hundred and eighty-five centuries would otherwise be indeed a burden grievous to be borne. As it is, we are merely informed that twenty-five dynasties occupied the throne until the time of Chun-tien, who commenced his reign in 1187, and is the first king with whom the consecutive history of the island, as given to us by Gaubil, begins.

Of the previous history but little is known. The first mention of Liu-kiu by the Chinese is made by Chu Kwan during the Sui dynasty in the year 590, and a little later the emperor, wishing to know something about the country and its products, sent an expedition there, which returned A.D. 605 without having accomplished much. A Japanese envoy, who happened to be at the Court of China at the time, gave the emperor some information upon the subject, and on his learning that the main island was distant only five days' sail from Foochow, he at once fitted out another expedition, caused various learned people to accompany it, and finally despatched it with a message to the Liu-kiu king that he expected him to recognise the sovereignty of the Emperor of China, and to come and do him homage. The unfortunate king, however, did not view the matter in the same light, and was rash enough to say so in reply. It would have been better for him to have submitted with the best grace he could. The enraged emperor, on receiving the news, despatched ten thousand of his picked troops as soon as they could be got together. In vain the King of Liu-kiu placed himself at the head of his army to resist the enemy. They effected a landing, and, by their superior numbers and disciplins, gained the day. The king was slain, and his army routed, and having pillaged and burnt the royal city and captured over five thousand slaves, the victorious Chinese departed.

The Chinese history of the Liu-kiuans at that period informs us that they were unacquainted with writing; that the king and people alike lived in the simplest manner, and that they were unprovided even with chop-sticks. They had fixed laws concerning marriage and burial, were particular in observing mourning, and treated the memory of their ancestors with great respect. Human beings were sacrificed to the spirits, but this custom was soon afterwards abolished. Felons were beaten according to the gravity of the offence, and if the crime was considered worthy of death, the condemned man was beaten to death with clubs.

It would have been imagined that, after the conquest of Liu-kiu by the Chinese, the latter would have enforced the payment of a tribute and the periodical rendering of homage to the emperors. This, however, was not the case. The islands were left in peace, and, on the whole, the affair was rather an advantage than otherwise to their inhabitants, as Chinese trade

became regularly established, and a considerable amount of business was yearly transacted between the two countries. No events of any importance occurred before the accession of Chun-tien in 1187. This monarch was a descendant of the ancient kings of Japan, but it is uncertain at what period his family settled in Liu-kiu. He is said to have been the son of the famous warrior Tametomo, who, after the defeat of his party in the civil war of 1156, was exiled to Yries Island, and fled some years later to Liu-kiu. Before his accession he had been Governor of Pon-tien, a town in the southern part of Okinawa-sima, and his crown was at first disputed by Li-yong, a rival prince who was afterwards defeated and killed. Chun-tien's reign was memorable for the introduction of writing,—the characters having been apparently borrowed from the Japanese.

Of Chun-tien's son we hear little, but his grandson, who succeeded in 1249, was unfortunate in having his country ravaged by famine and pestilence. Afraid lest he might be considered in some measure to blame, or anxious that everything should be done to alleviate his subjects' sufferings, he called a meeting of his nobles and offered to abdicate. They proposed Ynt-son, a descendant of the ancient kings of Liu-kiu. The king at once made him prime minister, and having satisfied himself as to his fitness, yielded him the crown. The choice of the nobles was a successful one, for Ynt-son appears to have made useful laws in connection with agriculture and taxes, and to have been generally beloved. Under his rule the islands to the north—Tatao (the present Oo-sima), Kikaiga-sima, and probably Kakirouma—were added to the kingdom, and his reign was further marked by a fortunate escape from another Chinese descent. Chit-son, Emperor of China at that time, bearing in mind the successes of his imperious predecessor Yang-ti, fitted out a fleet with the intention of reconquering the Liu-kius in the year 1291. The expedition, however, does not seem to have been a popular one. The Tartars and Chinese had been so roughly handled in their descent on the Japanese about this time, that they began to regard these predatory excursions as not always quite such simple affairs as they should be. There was therefore but little warlike ardour on board the ships that left the Fokien ports, and after cruising for a short time in the Formosa Channel, and making a descent on the Pescadores Islands, they returned home, having never even been within sight of their destination.

Ynt-son was succeeded by his son and grandson, and in 1314 Yu-ching, the fourth son of the latter, commenced a reign of war and disorder, in which the island became ultimately divided into three distinct kingdoms,—San-nan, Chusan, and San-pe or Sanboku—in which state they existed for nearly a century. Yu-ching retained the middle kingdom, which had Shiuri [1] for its

[1] The word Shiuri merely means "chief city," as does also its Chinese appellation

capital, and for many years civil wars raged throughout the island. The castle I have described as existing at Tchima, about two or three miles to the south of Shuri, and another named Nagagusko, discovered by the members of the American Expedition a day's journey to the north, are probably the remains of the strongholds of the rival kings.

On the death of Yut-soo's son Tsay-ton was elected king in 1350. He was merely a mandarin of high rank, but the people had suffered so much during the long minority of their previous king that they were anxious not to repeat the experiment. Tsay-ton's reign was an important one, as it was with him that the payment of tribute to China began. This custom remained almost unbroken for five centuries; and the Lin-kin king did not merely confine himself to his offerings of horses, sulphur, copper, and camphor-wood, but declared himself a vassal of the Chinese Emperor Hong-oo, at whose hands, in 1373, he received his investiture. The two other kings of Lin-kin had no sooner learnt what had occurred than they also followed his example. Hong-oo received their envoys, and sent them a golden seal, as he had done to Tsay-ton, at the same time advising them to put an end to the miserable civil wars that had for so long devastated the country. He also sent over thirty-six Chinese families from the Fokien province, whose influence on the language and customs of the Lin-kinans I have already alluded to. Tsay-ton received them well, assigning them revenues, and settling them in the town of Kumi near Napha. They introduced Chinese characters, books on the arts and sciences, and Confucianism, and to this day the interpreters are chosen from their descendants. In this reign the Melaco-sinas appear to have recognised the sovereignty of Lin-kin; commerce was solidly established with China, to the profit of both nations; and the islands became more prosperous than they had been for many years.

The two following reigns were devoid of interest, but in that of Chang-pa-chi the three kingdoms were, in the year 1430, once more reunited. The king was held in great esteem by the Emperor of China, from whom he received considerable sums of money, and, in addition, the surname of Chang, which the royal family of Lin-kin has ever since retained.

The year 1451 is memorable as being the first in which an accurate record exists of intercourse between Japan and Lin-kin, although it seems probable that the islands had been known to the former country for a long period previously. In that year the king sent a present of a thousand strings of cash to Ashikaga Yoshimasa, the ruling Shôgun; doubtless a very valuable gift, since but little copper money was at that time coined in Japan. Three years later Chang-tai-kin mounted the throne, which was at first contested

King-shing. It has been variously spelt Shui, Schaudi, and Cheouli. What we term Seoul, the capital of Corea, is probably the same word.

with him by his brother. The Emperor of China having lent him his aid, the quarrel was soon terminated, and commerce with that country was again resumed with great vigour. So great a quantity of silver and cash had found its way into Liu-kiu that the Fokien province was put to considerable inconvenience, and henceforward regulations were adopted by the Chinese in order to check to some extent the export of money. That a tolerably high state of civilisation existed at this time in the islands is evident from the fact that they cast bells for the temples, and possessed cups of gold and silver. As neither of these metals exists on the islands, it is probable that they were obtained from Japan. At the end of the fifteenth century the vessels from the port of Napha trafficked to Satsuma and other provinces in Japan, to Formosa, to many parts of the coast of China, and to Corea; and it is said that a Liu-kiu ship about this time even succeeded in reaching Malacca. The islands became the entrepôt of the commerce then existing between China and Japan, and in any cases of misunderstanding between these two nations the Liu-kiu king acted as mediator. His services were first called into requisition on the occasion of a remonstrance addressed to the reigning Tycoon by Kiat-sing, the Chinese emperor, concerning numerous acts of piracy on his coasts. It seems that the Japanese of the Goto and Hirado Islands—groups lying to the westward of Kiusiu—armed great numbers of vessels, and acting in concert with Chinese pirates, landed on all parts of the coast, plundering and slaughtering, and spreading the greatest consternation as far south even as Canton. Their principal stronghold was Keelung in Formosa, on which island they were held in such dread that the people deserted the seaboard and took refuge in the mountains. The Tycoon professed himself unable to exterminate these marauders, but, through the Liu-kiu king, he returned a great number of Chinese captives and vessels retaken from the pirates.

Hidéyoshi—one of the greatest men that Japan has ever produced—was at that time at the zenith of his fame. Throughout the length and breadth of the land he had fought and conquered, and no new worlds except those beyond the seas remained for him against which to keep his generals and troops employed. While meditating before the shrine of a temple in Kiyoto, the project of subduing both Corea and China occurred to him, and he resolved at once upon its execution. Anxious, however, that his design should not become known through the Liu-kiuans, he sent a message to the king of that people, recommending him to acknowledge the supremacy of the Emperor of Japan, and to pay tribute to him alone. Chang-ning, who was then on the throne, saw through his plot, and at once gave warning of it to the Chinese Emperor and the King of Corea. The latter refused to take any steps for the defence of his kingdom, believing that the war preparations of Japan were directed against China rather than himself. He was soon un-

deceived. Hidéyoshi landed almost unopposed, captured and burnt the city of Seoul, the capital, and departed with much plunder, having made two of the princes prisoners. He was on the point of marching against China when he died, and the war came abruptly to an end.

Chang-sing, however, was destined not to escape the anger of the Japanese, in spite of the death of Hidéyoshi. The tribute he had paid to the Prince of Satsuma up to the time of the invasion of Corea had not been resumed, and on his refusal to renew it the prince, acting in concert with a Liu-kiu noble who had revolted and retired to Satsuma, fitted out an expedition against the islands, and landed his troops in the spring of 1609. The result might have been foreseen. The invaders were completely victorious, and having sacked the palace and killed the father of the king, they brought the latter back to Satsuma as a prisoner. The Chinese were aware of this occurrence in time to render any assistance, and would in any case hardly have been able to lend them efficient aid, owing to the extremely unsettled state of their own country. The Liu-kiu king accordingly remained in captivity for two years, but his conduct so won the hearts of the Japanese that at the end of that time they restored him once more to his people and his throne. On his arrival in his own country so little was his independent spirit broken by captivity, that one of his first acts was to render homage to the Emperor of China, and to warn him that his late captors contemplated a descent upon Formosa. But he was nevertheless wise enough to resume the payment of tribute to the Prince of Satsuma, and we thus find Liu-kiu once more in the anomalous position of being subject to two hostile nations at one and the same time.

A little later, in the year 1643, occurred the great revolution which placed the Tartars in possession of the throne of China, and the Liu-kiu king had to bow to the force of circumstances, and to send in his submission with the rest. The Tartar emperor was happily well disposed towards him, and it was agreed that the tribute should thenceforward be paid biennially. Twenty years later the great Emperor Kang-hi succeeded his father, and during his reign the islands throve and prospered. Kang-hi loaded the Liu-kiu king with presents, built a palace in honour of Confucius, and instituted a college for the study of Chinese arts and letters; and when, in 1708, the towns of Naha and Shuri were ravaged with fires, typhoons, and pestilence, he came so quickly and generously to their aid that he gained the lasting gratitude and affection of the islanders. The length of his reign (1663-1736) was so great that he lived to see four Liu-kiu sovereigns on the throne, and in the year 1719 he sent Supao-kwang, one of the learned doctors of the empire, as ambassador to Chang-king, who was then monarch, with instructions to gather all the information possible with regard to the

people. It is to his careful record that we owe most of our knowledge of the past history of these most interesting islands.

At the beginning of this century, when the Chinese emperor invested Chung-wan with the full sovereignty, two envoys left Pekin on the mission, one of whom was Li Ting-yuen, the author of the "Shi Liu-kiu Ki," to which I have several times referred. He gives a naive and amusing account of his experiences, besides much information that is really valuable. It is curious to note that during his visit, which lasted over a period of six or seven months, the agents of the Prince of Satsuma were resident in Napha. Yet so well was this fact concealed that Li does not appear ever to have had the least suspicion of it. Of the later visits of Basil Hall, Beechey, Perry, and others I have already spoken. The American plan of making Napha a port of call fell through on the breaking down of the exclusive policy of the Japanese, and the islands lying, as they do, remote from the world's traffic, have been but little visited since. Gradually the hold of China relaxed, while that of Japan tightened. All tribute to the former country seems to have ceased in 1850. I am unaware whether there is any exact Chinese rendering of the term "suzerainty," a word that in our own language has of late years acquired a meaning of extreme delicacy. But if so, it was doubtless in use among Celestial politicians to express the relations existing between their country and Liu-kiu subsequent to that date. Those relations the Formosan difficulty still further attenuated, and in 1879 they may be said to have been completely severed by the bold step ventured on by the Japanese, who quietly deposed the Liu-kiu king, and took over the Government. Finally, during the Franco-Chinese War in 1885 the formal recognition of the sovereignty of Japan was claimed—I believe successfully—at the Court of Pekin.

APPENDIX II.

BIRDS OF KAMSCHATKA.

During our visit to Kamschatka I drew up a list of the birds shot or observed by our party, being at that time unaware that Taczanowski had already published a paper upon the subject. Subsequently another list appeared,[1] and in 1885 Dr. Stejneger published a "Synopsis of the Birds reported to inhabit Kamtschatka."[2] As our own notes add nothing to this list (which also includes the birds of the Commander Islands) I give it here, retaining Dr. Stejneger's nomenclature, and occasionally adding the English names for the benefit of non-ornithological readers.

1. Colymbus holbœlli (Reinh.) American Red-necked Grebe.
2. Colymbus auritus (Linn.) Horned Grebe.
3. Urinator adamsi (Gray).
4. „ arcticus (Linn.) Black-throated Diver.
5. „ lumme (Gunn.) Red-throated Diver.
6. Uria lomvia arra (Pall.).
7. „ troile californica (Bryant).
8. Cepphus columba, Pall.
9. „ carbo, Pall.
10. Brachyramphus marmoratus (Gm.)
11. „ kittlitzi, Brandt.
12. Synthliboramphus antiquus (Gm.)
13. Simorhynchus pygmæus (Gm.) Pigmy Auk.
14. „ cristatellus (Pall.) Tufted Auk.
15. „ pusillus (Pall.) Least Auk.
16. Cerorhinca monocerata (Pall.)
17. Cyclorhynchus psittaculus (Pall.) Parrot Auk.
18. Lunda cirrhata, Pall. Whiskered Puffin.
19. Fratercula corniculata (Naum.) Horned Puffin.
20. Larus glaucescens, Naum.
21. „ glaucus, Brünn. Glaucous Gull.

[1] Liste des Oiseaux du Kamtschatka et des Iles Commandores, par le Dr. B. Dybowski et L. Taczanowski: "Bull. de la Soc. Zoolog. de France," tome ix. 1884.

[2] "Bull. U.S. Nation. Mus." No. 29, p. 313.

22. Larus schistisagus, Stejn.
23. „ cachinnans, Pall. Laughing Gull.
24. „ kamschatchensis (Bp.)
25. „ canus, Lin. Common Gull.
26. „ ridibundus, Lin. Black-headed Gull.
27. Rissa tridactyla pollicaris, Steju. Pacific Kittiwake.
28. „ brevirostris (Bruch.) Red-legged Kittiwake.
29. Gavia alba (Gunn.)
30. Sterna camtschatica, Pall. (longipennis) Kamschatkan Tern.
31. „ paradisea, Brünn. Arctic Tern.
32. Stercorarius parasiticus (Lin.) Skua.
33. „ longicaudus, Vieill. Buffon's Skua.
34. „ pomarinus (Lin.) Pomatorhine Skua.
35. Diomedea albatrus, Pall. Albatross.
36. Fulmarus glacialis glupischa, Stejn. Pacific Fulmar.
37. Puffinus tenuirostris (Temm.)
38. Oceanodroma leucorhoa (Vieill.) Leach's Petrel.
39. „ furcata (Gm.)
40. Hæmatopus osculans (Swinh.) Eastern Oystercatcher.
41. Arenaria interpres (Lin.) Turnstone.
42. Charadrius squatarola (Lin.) Grey Plover.
43. „ dominicus fulvus (Gm.) Eastern Golden Plover.
44. Ægialitis mongolica (Pall)
45. Gallinago gallinago (Lin.) Snipe.
46. „ hyemalis (Ewers.)
47. Arquatella couesi (Ridgw.)
48. Actodromas acuminatus (Horsf.)
49. „ damascensis (Horsf.)
50. „ ruficollis (Pall.)
51. „ temminckii (Leisl.) Temminck's Stint.
52. Pelidna alpina pacifica (Coues).
53. Calidris arenaria (Linn.) Sanderling.
54. Limosa lapponica baueri (Naum.) Eastern Bar-tailed Godwit.
55. „ ægocephala melanuroides (Gould.) Eastern Black-tailed Godwit.
56. Pseudototanus guttifer (Nordm.)
57. Totanus nebularius (Gunn.) Eastern Greenshank.
58. „ ater (Sander.)
59. „ glareola (Linn.) Wood Sandpiper.
60. Pavoncella pugnax (Linn.) Ruff.
61. Actitis hypoleucus (Linn.) Common Sandpiper.
62. Terekia cinerea (Guld.) Terek Sandpiper.
63. Heteractitis incanus (Gm.)
64. „ brevipes (Vieill.)
65. Numenius cyanopus (Vieill.)
66. „ phæopus variegatus (Scop.) Eastern Whimbrel.
67. Phalaropus lobatus (Linn.) Red-necked Phalarope.
68. Crymophilus fulicarius (Linn.)
69. Grus grus orientalis (Rhyth)? Crane.
70. Anser segetum middendorffi (Severtz.) Eastern Bean Goose.
71. „ albifrons gambeli (Hartl.) White-fronted Goose.
72. Chen hyperboreus (Pall.)

73. Branta canadensis hutchinsi (Rich.)
74. „ nigricans (Lawr.)
75. Cygnopsis cygnoides (Pall.)
76. Olor cygnus (Linn.) Swan.
77. „ columbianus (Ord.) Whistling Swan.
78. Anas boschas (Linn.) Mallard.
79. Chaulelasmus streperus (Linn.) Gadwall.
80. Dafila acuta (Linn.) Pintail.
81. Nettion crecca (Linn.) Teal.
82. Querquedula querquedula (Linn.) Garganey.
83. Eunetta falcata (Georgi.) Falcated Teal.
84. „ formosa (Georgi.)
85. Mareca penelope (Linn.) Widgeon.
86. „ americana (Gm.)
87. Spatula clypeata (Linn.) Shoveller.
88. Aythya marila (Linn.) Scaup.
89. „ fuligula (Linn.) Tufted Duck.
90. Clangula clangula (Linn.) Golden-Eye.
91. Charitonetta albeola (Linn.) Buffle-headed Duck.
92. Histrionicus histrionicus (Linn.) Harlequin Duck.
93. Harelda hyemalis (Linn.) Long-tailed Duck.
94. Enicometta stelleri (Pall.) Steller's Western Duck.
95. Somateria V-nigra, Gray. Pacific Eider.
96. „ spectabilis (Linn.) King Eider.
97. Oidemia americana (Sw. and Rich.)
98. „ deglandi, Bp. Eastern Scoter.
99. Merganser merganser (Linn.) Goosander.
100. „ serrator (Linn.) Red-breasted Merganser.
101. „ albellus, Linn. Smew.
102. Phalacrocorax perspicillatus, Pall.
103. „ urile (Gm.)
104. „ pelagicus, Pall.
105. Urogallus parvirostris kamschaticus (Kittl.) Kamschatkan Capercailzie.
106. Lagopus lagopus (Linn.)
107. „ mutus (Montin.) Ptarmigan.
108. „ ridgwayi, Stejn.
109. Falco rusticolus, Linn.
110. „ islandus, Brünn. White Gyrfalcon.
111. „ pealei, Ridgw.
112. „ peregrinus, Tunst. Peregrine.
113. „ subbuteo, Linn. Hobby.
114. Astur candidissimus, Dybow.
115. Accipiter nisus (Linn.) Sparrow-hawk.
116. Archibuteo lagopus (Brünn.) Rough-legged Buzzard.
117. Aquila chrysaetos (Linn.) Golden Eagle.
118. Haliaetus leucocephalus (Linn.) Bald Eagle.
119. „ hypoleucus, Ridgw.
120. „ albicilla (Linn.) Erne.
121. Thalassaetus pelagicus (Pall.) Pallas's Eagle.
122. Pandion haliaetus (Linn.) Osprey.
123. Asio accipitrinus (Pall.)
124. Nyctea nyctea (Linn.) Snowy Owl.
125. Surnia ulula (Linn.) Short-eared Owl.

126. Cuculus canorus telephonus (Heine.) Eastern Cuckoo.
127. „ penitusulus, Stejn.
128. Dryolates purus, Stejn. Great Spotted Woodpecker (Eastern form).
129. „ immaculatus, Stejn. Lesser Spotted Woodpecker (Eastern form).
130. Picoides albidior, Stejn. Three-toed Woodpecker (Eastern form).
131. Micropus pacificus, Lath.?
132. Alauda blakistoni, Stejn.
133. Nucifraga caryocatactes (Linn.) Nutcracker.
134. Corvus corax, Linn. Raven.
135. „ beringianus (Dybow.)
136. „ corone levaillanti (Less.) Eastern Carrion Crow.
137. Pica camtschatica, Stejn. Kamschatkan Magpie.
138. Hypocentor aureolus (Pall.)
139. „ rusticus (Pall.)
140. „ variabilis (Temm. and Schl.)
141. Emberiza schoeniclus (Linn.) Black-headed Bunting.
142. Plectrophenax nivalis (Linn.) Snow Bunting.
143. Calcarius lapponicus (Linn.) Lapland Bunting.
144. Acanthis linaria (Linn.) Redpoll.
145. „ „ holbœlli (Brehm.)
146. „ hoenemanni exilipes (Coues).
147. Leucosticte brunneonucha (Brandt.)
148. „ griseonucha (Brandt.)
149. Fringilla montifringilla (Linn.) Brambling.
150. Chloris kawarahiba (Temm. and Schl.)
151. Coccothraustes coccothraustes (Linn.)? Hawfinch.
152. Pyrrhula pyrrhula kamtschatica (Taczan.) Eastern Bullfinch.
153. Carpodacus erythrinus grebnitski, Stejn.
154. Pinicola enucleator (Linn.) Pine Grosbeak.
155. Loxia sp.?
156. Cliricola riparia (Linn.) Sand Martin.
157. Chelidon tytleri (Jerdon).
158. „ kamtschatica (Dybow.)
159. Ampelis garrulus, Linn. Waxwing.
160. Lanius cristatus (Linn.)?
161. „ sibiricus (Bogdan.)
162. Butalis sibirica (Gm.)
163. Erythrosterna albicilla (Pall.)
164. Anthus gustavi, Swinh.
165. „ japonicus (Temm. and Schl.)
166. „ cervinus (Pall.)
167. Pipastes maculatus (Hodgs.)
168. Budytes flavus leucostriatus (Hom.) Eastern Yellow Wagtail.
169. Motacilla melanope, Pall. Grey Wagtail.
170. „ ocularis, Swinh.
171. „ lugens, Kittl.
172. Troglodytes pallescens (Bldgw.)
173. Parus ater, Linn. Coal Tit.
174. „ kamtschatkensis (Bp.) Kamschatkan Marsh Tit.
175. Ægithalus caudatus (Linn.) Long-tailed Tit.
176. Sitta albifrons, Taczan.

177. Acrocephalus schœnobænus (Midd.)
178. Locustella hendersoni (Cass.)
179. Phylloscopus borealis, Blas. Arctic Willow Warbler.
180. " xanthodryas (Swinh.)
181. Phylloscopus humeyeri, Dybow.
182. Turdus eunomus, Temm.
183. Turdus obscurus, Gm. Dusky Ouzel.
184. Ianthia cyanura (Pall.) Bluestart.
185. Cyanecula suecica (Linn.)
186. Melodes calliope (Pall.)

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